



DURO

POWER TOOLS

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ADVANCED DESIGNS PLUS MODERN METHODS

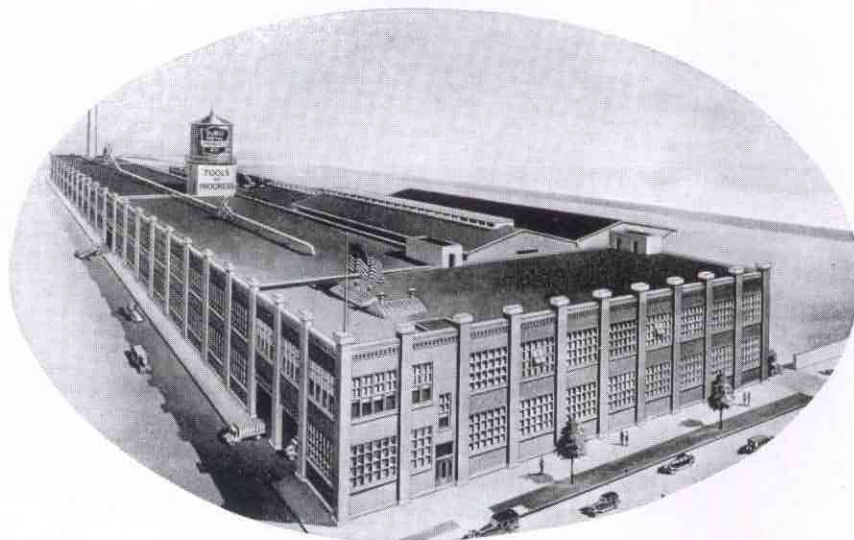
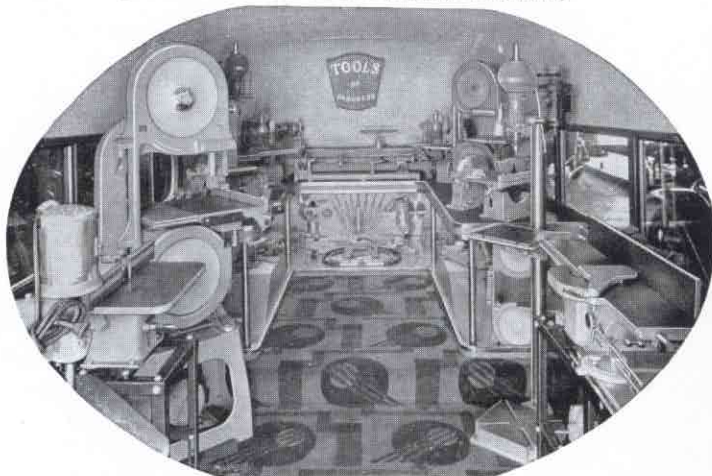
Behind any product is a most important factor—the character and reputation of the manufacturer. A purchaser is interested in most cases not only in the product as it is displayed in the sales room or as it is described in a catalog, but he also wishes to know what kind of an organization made the product. Because we are proud of the efficiency and integrity of our organization and because we realize the prospective purchaser is rightly interested, we are offering the facts behind the products of our company.

THE ORGANIZATION

Founded in 1917 to make precision tools and machinery; Duro Metal Products Co. has shown a continuous and steady growth. Today we are leaders in our field. This has been accomplished by strict adherence to the policy of making only the best in each class of products, yet selling at the lowest possible price. Seven years ago we entered the Woodworking Machinery field and today we are one of the foremost in that field. Many claims have been put forth but check the records on this fact — Since Duro entered the field seven years ago there have been more machines developed and more major improvements made than in the previous fifteen years.

MODERN METHODS AND DESIGNS

In order to offer the public superior construction in both Machinery and Accessories it was necessary to install the most modern machines and for our engineers to develop methods of producing the component parts at the least possible cost. Our engineers are working unceasingly to develop new methods for producing better machinery, for we realize that regardless of the price range, the public wants and expects the manufacturer to produce the best that it is possible to obtain.



Above is Duro Plant No. 3 which contains 195,000 square feet of floor space. Over 2200 H. P. is required to run the various machines making Duro products.

MASS PRODUCTION

Recognition of the marvelous work that the automobile industry has done in the last 20 years in giving to the public a better automobile for \$1000.00 than could have been bought formerly for \$2500.00 has led us to study and adapt to our own particular requirements similar methods of mass production with the object in mind of giving the same relative values. Line production of all assembly work, the use of skilled men to make one tool and one tool only, and the fact that we do all processing within our own plants and do not have to pay an extra profit on die casting, plating, heat treating, forgings, and screw machine parts has made it possible to put better materials, workmanship and design into our tools.

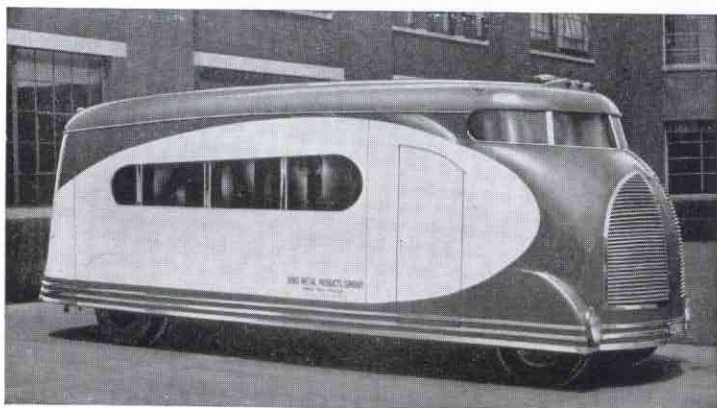
BUYING POWER

The large volume of business done by Duro, both in their Automotive and Woodworking Divisions, makes it possible for the manufacturers of raw materials and special parts to cooperate very closely with us and pass on savings that are obtained by making production runs on the large orders that Duro is able to place. An example of Duro's capacity is the fact that it takes three carloads of steel per day to keep our Automatic Screw Machine Department up to full production.

Where it is necessary to purchase outside materials, Duro uses only standard brands, such as General Electric Motor Parts, New Departure Precision Ball Bearings, Jacob's Chucks, and Cutler Hammer Switches. This is in conformity with our policy of using only the finest materials.

PUBLIC INTEREST

Our activities are not confined to the production of the machinery. Our factory representatives are all practical men with a real knowledge of woodworking. In each territory they have in their charge a completely equipped display car showing our complete line that not only helps train the distributors' men, but also is ready to call on homecraft clubs, schools, and industrials for educational purposes. The actual tools make it possible to illustrate far more clearly than in any other way the purposes, use, adjustments and features of each machine. This is an increasingly useful project originated by Duro. The more that is known of the uses of woodworking machinery the greater is its value to the general public, both from a point of view of profit for industry and pleasure for the home shop owner and model builder.



PLUS MASS PRODUCTION EQUALS GREATER VALUES



The Museum of Science and Industry in Chicago illustrated above depicts the industrial and scientific progress of mankind from cave-man to modern engineer. Actual machines or working models are largely used in its exhibits—many operated by skilled mechanics. Since its opening in 1933, a large and distinguished directorate has steadily increased its scope until now it is of international reputation. The building, originally an architectural marvel of the 1893 Columbian Exposition, has been faithfully reproduced in enduring stone and has been called "The finest since the Parthenon."

DURO MACHINES TYPIFY MODERN WORKSHOP

The Museum of Science and Industry has recently added two interesting and instructive exhibits illustrated at the right which compare the woodworking shop of over a century ago with a modern power driven woodworking shop. The comparatively crude tools of the old time woodshop are in sharp contrast to the individually motored modern shop machines. As Duro has consistently contributed to the development and improvement of power woodworking tools, we are particularly gratified to have the modern woodworking shop in the exhibit completely equipped with Duro machines.

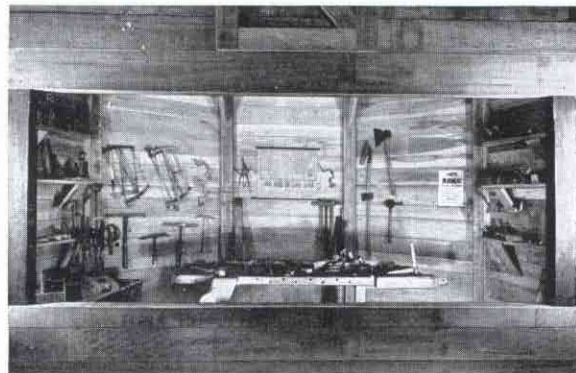
PRECISION

Over twenty years experience in manufacturing high grade machinery and tools has taught us the value of using automatically controlled equipment wherever possible when precision is required as it reduces the human element of error. No expense has been spared in equipping our different departments. For example—our Heat Treating Department is completely controlled by automatic electric pyrometers. Our die casting machines are of the most modern design with full automatic control. We use automatic grinders, automatic screw machines and have likewise developed automatically controlled jigs and fixtures for various operations, such as drilling, boring and grinding. We also have a fully equipped laboratory where rigid tests are constantly run to insure the uniformity of our products. The maxim of our entire executive force is—make it as low in cost as possible but do not sacrifice quality in workmanship and materials under any circumstances. A constant effort is made to improve our products by producing more precise methods of operation.

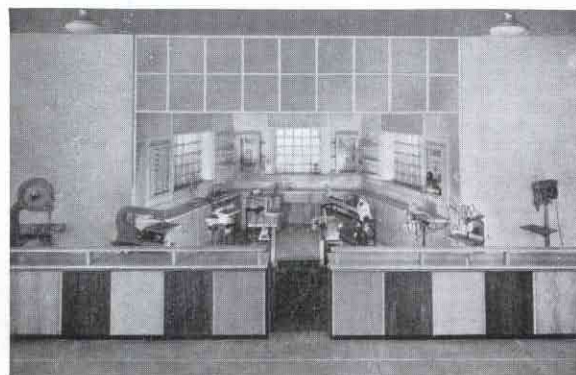
GREATER VALUES

Values are relative—Because a given machine is higher in price does not mean that it is necessarily better—Because it is lower in price does not mean that it is of inferior quality—Some of our like machines are lower in price, some are higher, but always there is a reason.

Every machine that Duro builds has value built into it and is worth the established price in comparison with any machine made by any manufacturer. We do not claim to make all the good machinery, but we do state that whatever we do make is the best that can be purchased at that price. Furthermore, if we were all making identical machines — Duro would build any and all machines and sell them at a price that would reflect favorably on Duro's claim



WOODWORKING SHOP A CENTURY AGO



MODERN WOODWORKING SHOP

of GREATER VALUES. We have all the necessary facilities — Executive ability, and experience; Modern plant and equipment; Buying power and Mass production. Plus these facts we are an entirely self-contained organization that is not forced to pay a second profit on a great many parts as others do because of a lack of facilities or a limited production.

However, Duro machines are individual. A large part of their merit lies in the fact that they are primarily practical not only in design and construction, but also that the adjustments are simple, effective and of a practical type that you would expect to find on a production machine. These advantages are made possible by experienced Executives, Engineers and Designers who have a thorough knowledge of what the public requires.

Quality materials, precision workmanship and practical designs are your assurance that when you go through this catalogue you will find machines of superior construction, design and practical adjustments. They are more convenient to use, will do better work, will wear longer and stand harder usage with less repairs than other machines in the same field — GREATER VALUES.

DURO

DURO PRODUCTION 10 In. TILTING ARBOR SAW

NEWEST – MOST IMPROVED – MOST ADVANCED

Best Existing
Construction Features

PLUS

Improvements and
Added Refinements

The Duro 10-inch Tilting Arbor Saw is the product of research and exhaustive tests covering all known types of construction. The best features of existing designs were selected on a performance basis. Where improvements were indicated such as designing for any motor rather than special motors, these were provided for. And then the completed Saw was thoroughly tested not only in our laboratory but in actual production service. As a result we do not hope or believe but know from experience that this Saw is the finest tool of its kind.

Duro engineers have built a Saw which not only looks good but is good and which is built for service. It economically performs a wide variety of operations quickly and accurately with the least possible effort on the part of the operator and is built for long, hard, heavy duty use. The heavy base is cast iron and steel for extra rigidity. The capacity is large — up to $3\frac{3}{8}$ " cut and 17" from blade to fence. Furnished with steel table extensions or cast iron if preferred, the working surface is 36" x 30". Included at no extra charge are the saw guard, the splitter which tilts with the blade up to 45° and the safety anti-kickback. An aluminum table insert is provided so that Dado Heads can be used and the Deluxe Mitre Gauge included is far superior to the usual equipment.

The rip fence is equipped with an extra accurate micrometer adjusting mechanism which is quickly disengaged for movement across the table. Front and rear locks securely fasten the fence in the desired position. The 10" combination blade fits a $\frac{5}{8}$ " diam. spindle mounted on two New Departure Ball Bearings. Large hand wheels are provided to raise and lower the blade and to adjust the blade tilt accurately, and without backlash. The saw dust chute guides the saw dust in the same direction as it comes from the blade down to the base of the machine, thereby preventing working parts and motor from gumming with sawdust. A clean-out door is provided at the base of the machine.

The Duro motor mounting is designed for any make motor. Located away from the saw dust stream, it is hung so that it does not interfere with the work in any position. It is not necessary to use a totally enclosed motor or motor with special frame with the Duro Saw. Motor is controlled by a conveniently located switch. A storage compartment in the side of the base provides a handy place to store dado heads, extra blades and wrenches.

Underlying all the above is the Duro reputation for quality material and accurate manufacture. Use this Saw for factory, for shop — to supplement larger equipment, to add to smaller equipment. Use it eight hours a day, month in and month out. Use it hard or use it for delicate work. It will meet your demands, be a pleasure to use and will save you money in investment and operating costs.

3018—Tilting Arbor Saw 10" with Steel Table Extensions. Less motor.
B-3018—Tilting Arbor Saw 10" with Cast Iron Extensions. Less motor. See page 50 for extra saw blades and dado heads.

SPECIFICATIONS

Depth Cut.....	3 $\frac{3}{8}$ "	Blade.....	10"x $\frac{5}{8}$ "	Combination	
Takes 6" Dado Head up to 1" wide.					
Blade tilts to 45°. Positive Stop at 45° and Square.					
Maximum Distance Blade to Fence.....	17"				
Distance Ahead of Blade at Maximum Cut.....	14 $\frac{3}{4}$ "				
Overall Height.....	40 $\frac{1}{4}$ "	Width.....	36"	Depth.....	37 $\frac{1}{4}$ "
Height to Table Top.....	35 $\frac{3}{8}$ "				
Table Size.....	20"x30"	With Extension.....	36"x30"		
Recommended Motor.....	$\frac{1}{2}$ HP for Light Work				
	1 HP for Heavy Duty Work				
Size Motor Pulley.....	4"	on 1750 R.P.M. Motor			
	2 $\frac{1}{4}$ "	on 3450 R.P.M. Motor			
Use V-Belt Size 40" on 4" Motor Pulley.					
Use V-Belt Size 38" on 2 $\frac{1}{4}$ " Motor Pulley.					
Shipping Weight.....	298 lbs.				

America's Finest and Most Complete

EVERY DETAIL OF CONSTRUCTION THE FINEST

Designed to take large work, Duro has provided capacity up to $3\frac{3}{4}$ inches depth of cut on the 10-inch Tilting Arbor Saw and a working surface on the table top of 1080 sq. inches. Not only is the working surface large but the distance in front of the saw blade $14\frac{1}{4}$ inches, and the distance from the blade to the fence 17 inches, is proportioned to give the greatest possible utility in handling large pieces. Cast iron table top is made of close grained seasoned gray iron heavily ribbed with an accurately ground and polished surface.

The base was built to be more solid and rigid than the usual all-steel construction by using heavy gray iron castings as a frame, reinforced with steel plates. The resulting additional strength and vibration-free performance is well worth the extra expense involved in manufacturing.

Above the table the heavy steel fence, described in detail below, adjusts quickly and easily to any position on either side of the saw blade. The micrometer adjustment and the front and back locks give an accurate and positive setting. The Deluxe Mitre Gauge described on page 7 is heavier, larger, more easily adjusted and capable of handling a wider variety of work. The combination rip and cross cut saw blade is 10 inches in diameter with $\frac{5}{8}$ " arbor hole. Guard, splitter and anti-kickback are furnished as standard equipment at no extra expense. Notice in the illustration below at the left that this assembly automatically tilts with the saw blade so that it is effective at all times without special adjustment.

The saw spindle $\frac{5}{8}$ " in diameter of ground steel runs on two large New Departure Ball Bearings and is incased in a spindle housing with a single grease plug for easy lubrication of the entire assembly. The only additional lubrication required will be an occasional drop of oil for the adjustments. A large handwheel on the front of the base raises and lowers the blade while a similar wheel within easy reach at the side tilts the saw blade up to 45° with the degree of tilt registered on a gauge. The blade retains its position without locking and has a positive stop for the 45° and regular positions.

The entire blade adjusting mechanism including the motor mounting is suspended from the heavy cast table top by extra large cast iron trunnions. The importance of this mounting being not only larger and heavier than other designs but also of having adjustments for taking up wear is described at the right.

The sawdust chute pictured below carries sawdust away from the saw mechanism and motor to prevent gumming. As can be seen at the right the motor is not only protected from sawdust to eliminate the necessity of buying a special totally enclosed motor but also is mounted so that special frame dimensions of the motor are not necessary to prevent interference.

Located conveniently on the base is a motor switch with 10 ft. of rubber covered cord and plug. A clean out door for sawdust is located near the floor and on the side a built in compartment provides a handy rack for extra saw blades, dado heads and wrenches.



DESIGNED TO USE ANY TYPE MOTOR

It is always better from the customer's standpoint to design a machine for standard parts rather than for special parts. However, up to now there have been difficulties in using standard motors on tilting arbor saws. Duro now announces the development of a motor mounting design that takes any standard motor. With the Duro construction, no standard motor will interfere with work on the table regardless of the blade position. Totally sealed motors are not necessary as the motor has been removed from the sawdust stream and sawdust disposal has been controlled.

You can power your Duro Tilting Arbor Saw with a Duro standard motor or you can use a motor you may have on hand or one you can obtain. If it should be necessary to replace a motor at some time in the future you are not compelled to obtain a special motor with particular specifications in order to operate your saw.

Note the heavy solid construction of the blade adjusting mechanism and the oversize trunnion mounting. The accuracy of the blade is dependent on having no play develop in this mechanism. That is why Duro has improved existing designs by providing a take up for wear in the trunnion mounting. The belt tension is adjusted on the motor mounting and all parts are readily accessible for belt changes, oiling or adjustment. A single grease plug lubricates the entire spindle mechanism, while an occasional drop of oil will lubricate all adjusting mechanism parts.

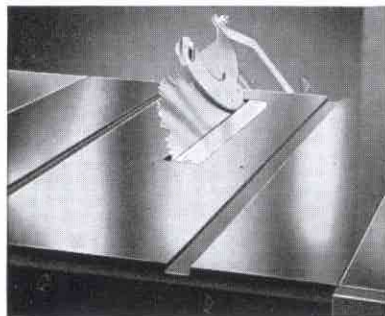
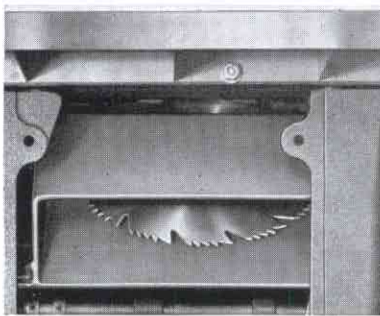


TABLE TOP AND BLADE

The table top is heavy cast iron cross ribbed to prevent warping with a ground and polished surface and with mitre gauge slots on both sides of the blade. The table measures 20×30 ", larger than heretofore used, and with table extensions has a total working surface 36×30 ". The table is fitted with a removable aluminum insert giving added throat capacity for dado head. The guard, splitter and anti-kickback are all included with the saw. The guard is clear vision type and the splitter adjusts to line up accurately with the saw blade. The anti-kickback effectively prevents work being kicked back at the operator yet has no teeth to mar the finished work. Note that the entire assembly is swung from a bracket that follows the adjustment of the saw blade.



SAW DUST CHUTE

As sawdust is thrown from the blade it is guided by the sawdust chute down to the lower part of the base. By fully covering the blade with the chute and by continuing the sawdust in the same direction that it is travelling as it leaves the saw blade, the sawdust is effectively disposed of. The result is that the working parts and the motor are kept relatively free from sawdust preventing gumming and consequent wear. Compare this construction with a mechanism that whirls and re-whirls the sawdust over and around all working parts including the motor and you will see the advantage of the Duro construction. This is one of the reasons the Duro saw can use a standard motor with adequate ventilation instead of a totally sealed motor. A door at the bottom of the base provides for the easy removal of the sawdust accumulation.



RIP FENCE

The heavy steel fence extending from the front to the back of the table is 2 inches high and is aligned by means of two hexagon head cap screws on top of the fence to toe out, away from true parallel to the saw blade, about $\frac{1}{8}$ inch to prevent binding. It is accurately adjusted to an exact setting by means of the Duro patented friction roller, bearing on the rear face of the front fence guide bar and operated by the hand knob. For quick movement across the table a roller lock, releases and holds the roller free from the guide bar and is quickly re-engaged when required. The bracket which holds the fence to the front guide bar is a heavy casting with a large surface that bears on the guide bar to square the fence. Front guide bar is graduated in $\frac{1}{8}$ inches. The fence is locked in position on the front guide bar by means of a T-handle and is also locked by a knurled knob on the rear guide bar. Fence operates on either side of blade.



DURO PRODUCTION TABLE SAW

Study the specifications and standard equipment supplied with these Saws and you will see why they are the greatest value on the market. We have not only built the finest machine engineering skill, superior materials and precision manufacture can produce but have added extra features that craftsmen require and appreciate.

Compare the size of the tables with other bench saws in this price range. No. A3015 has 320 sq. in. and No. B3015 has 414 sq. in. of table surface. Each additional square inch of these heavy machined tables adds materially to the cost of manufacture. Compare the 9 1/4 inches of table a head of the saw (12 inches on No. B3015) with competitive machines. This extra distance permits cross-cutting wide boards. Notice the use of genuine New Departure ball bearings grease sealed and lubricated for life, on the spindle mounting. Note the clear vision guard and splitter, also the non-marring anti-kick-back device, an important safety feature, all furnished at no extra cost. These are some of the plus values built into this saw by experienced designers for your greater satisfaction.

The general design of this saw is one of sturdy simplicity. The general construction includes heavy seasoned gray iron frame with highest quality fittings and all parts accurately machined to close tolerances. It is handsomely finished in gray corduroy enamel trimmed with chromium and cadmium plating.

CAPACITY — SAW BLADES

A full 2 3/8" cut can be made with this Bench Saw. No. A3015 Bench Saw with the table extension will rip to the center of a 40 inch panel; No. B3015 to the center of a 44 inch panel.

The 8" saw blade with 5/8" arbor hole is a double purpose blade that rips and cross cuts equally well. Blades are made of high grade alloy steel, correctly tempered and built for production work. Our saw blades are hand hammered, filed and set to pass the most rigid inspection. Note the removable insert in table that permits using up to 3/8"x5" dado heads.

SPECIFICATIONS

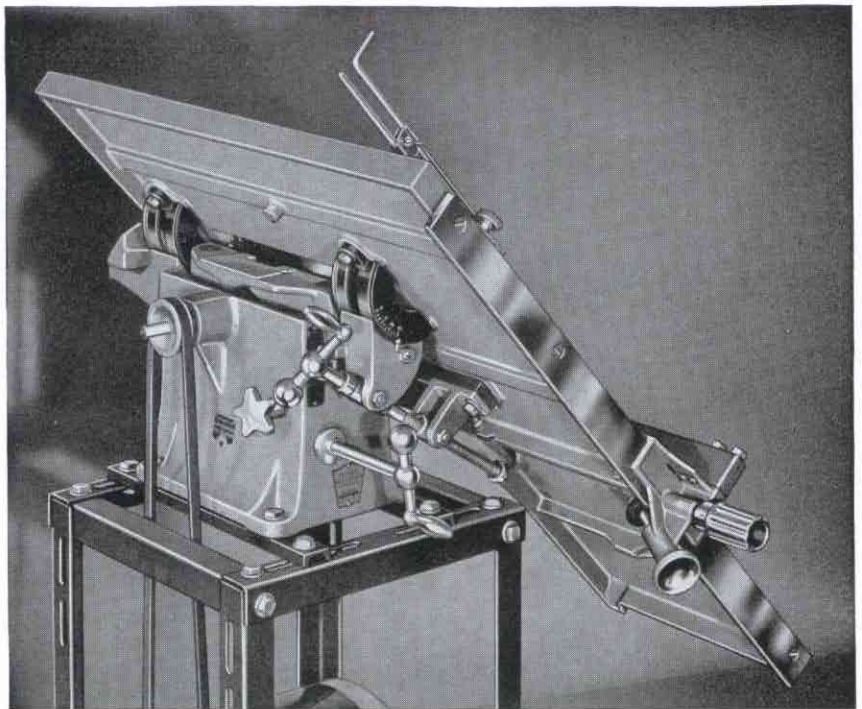
Combination Blade.....	8" diam. 5/8" arbor hole
B3015 Table.....23" x 18"	Space in front of blade.....12"
A3015 Table.....20" x 16"	Space in front of blade.....9 1/4"
Maximum depth cut.....2 3/8"	Table tilts to.....45°

Takes Dado Head up to.....	3/8" x 5"
Recommended motor for average use.....	1 1/2 H.P.
Size motor pulley for 1750 R.P.M. Motor.....	5"
Mount on No. 301585 Steel Stand.....	Requires 48" V Belt

TABLE BRACKET-TABLE MOUNTING

Note the large extra heavy cast iron table bracket that carries the table. Ways are milled in the front and rear of the bracket to support the table trunnions. The bracket is equipped with two large $1\frac{1}{2}$ inch steel posts with a fine tooth rack cut in each post. The posts operate in 3-inch long bearing supports which are an integral part of the frame. A double pinion turned by the ball crank handle operates the gear racks, lowering or raising the table, with ease. With a double pinion and gear rack on both front and rear posts and with the weight of the table thus evenly distributed there is absolutely smooth action and no possibility of cramping. Added ease of operation is obtained by counter balancing the weight of the table and bracket with raising springs.

The table is mounted, front and rear, on two sets of wide trunnions with double ways. This design permits the table to tilt on an axis running in line with the saw blade and even with the TOP of the table. Consequently there is no travel of the slot to right or left when the table is tilted. This permits a very narrow table slot—a great advantage in convenience and safety for thin or narrow work. A removable throat provides ready access to the blade or space for dado saws.



MECHANICAL ADJUSTMENTS ARE PRACTICAL - SIMPLE - ACCURATE

The illustration above to the right shows the simplicity in design of the various adjustments. These adjustments on the Duro Production Bench Saw are accurate, are easily and quickly made and in actual use have proved to be practical.

A ball crank handle turns to tilt the table to the required position where it will remain without locking. The table raises and lowers quickly and easily with two complete turns of the ball crank and is locked by $\frac{1}{4}$ turn of hand knob. Both the tilting and table raising mechanism are accurately machined to operate without backlash.

A mitre gauge graduated to 60° in both directions, with extension stop bars for duplicate cuts, is supplied as standard equipment. Grooves carefully machined in table accommodate the mitre gauge on either side of the blade.

The rip fence is made of steel with parts machined to a rigid fit. A quarter turn releases the locking handle. The friction drive knob moves the fence with micrometer accuracy—always parallel to saw blade. By pressing on the knob the friction drive is released and the fence may be quickly moved across the table.

ORDERING INFORMATION

A-3015—Bench Saw, 20"x16" table; with saw guard, splitter, anti-kick-back, mitre gauge, 8" combination blade, rip fence and $2\frac{1}{4}$ " spindle pulley. Shipping weight 100 lbs.

B-3015—Same Bench Saw with 23"x18" table. Shipping weight 112 lbs.

301553—Extension Table with graduated bar to match table bar. Table size 13"x13 $\frac{1}{2}$ ". Specify whether for A-3015 or B-3015. Shipping weight 16 lbs.

301557—Anti-Kick-Back attachment only. Shipping weight $\frac{1}{2}$ lb.

301558—Saw Guard and Splitter only. Shipping weight 3 lbs.

301585—Steel Stand for Bench Saw. Shipping weight 29 lbs.

301586—Remote Control Switch for motor. Fits front bar of steel stand. Shipping weight 1 lb.

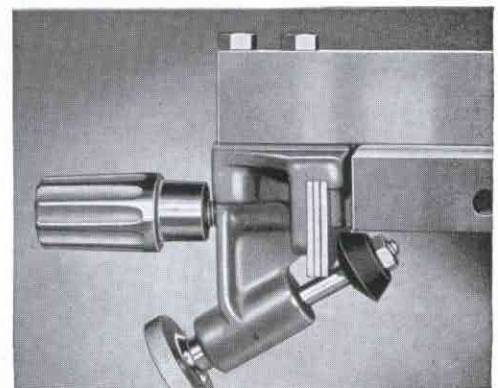
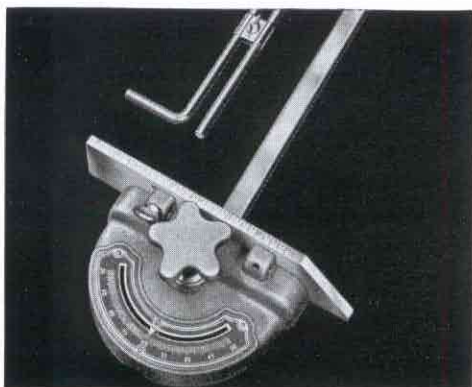
301588—Rubber Feet for steel stand. Set of four. Shipping weight per set 1 lb.

301590—Belt and Pulley Guard. Shipping weight 4 lbs.

301595—DeLuxe Mitre Gauge Assembly. Shipping weight 6 lbs.

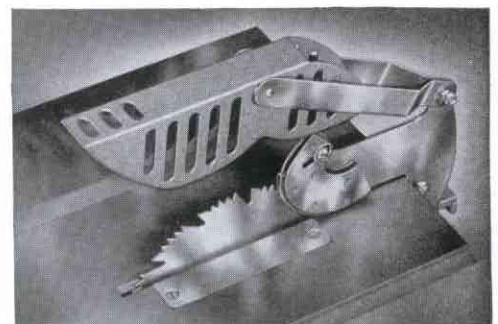
DELUXE MITRE GAUGE

An extra fine gauge of strong solid construction, accurately machined with added features and improvements. Rotates smoothly and easily on extra large machined bearing surfaces. Locks on own axis and positively eliminates crawling from set position while being locked. Gauge has total swing of 120° with adjustable stops at each end of travel. Metal support bar is 9 $\frac{1}{4}$ inches in length and 2 inches high giving large working surface. Holes provided for adding wood face if required. Support bar is adjustable and may be moved to right or left. Graduated on top in $\frac{1}{8}^\circ$. Adjustable extension rods provided for duplicate cut off work. Allowance of \$1.25 will be made for standard mitre gauge if De Luxe Gauge is ordered at time of original purchase of saw.



FRICTION DRIVE RIP FENCE

A composition friction roller operating against the guide bar permits micrometer adjustment, impossible with gear teeth and rack. Roller may be released, by pressure against turning knob, and fence moved quickly across table. Sliding bracket, precision machined, enables the rip fence to move across the table parallel with the saw blade without binding. Handle locks the fence securely in position. Guide Bar is graduated in $\frac{1}{8}$ in.



GUARD, SPLITTER AND ANTI KICK-BACK

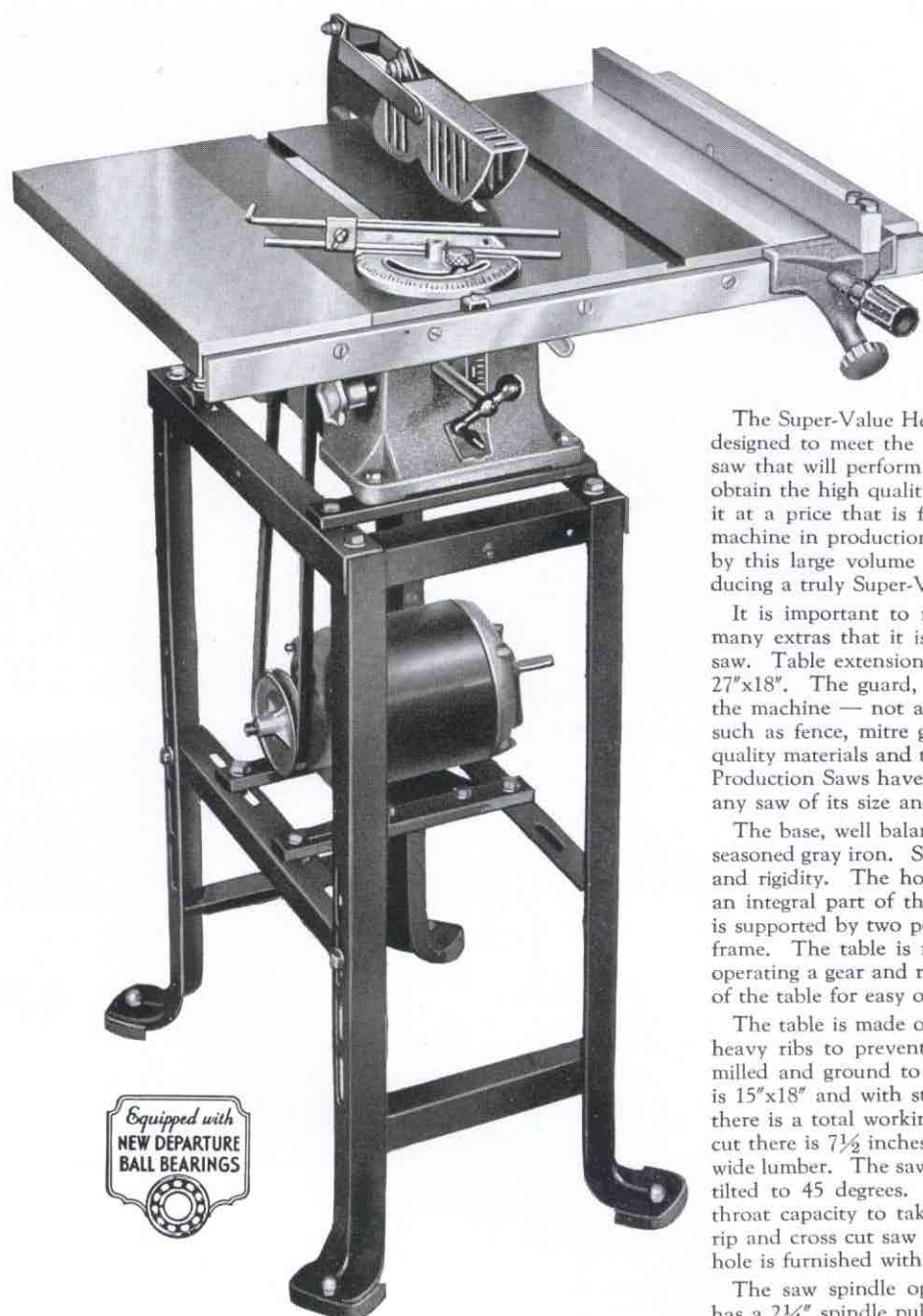
Splitter in back of saw blade prevents binding. Anti Kick-Back is made of moulded rubber and steel. Rubber grips all work from finest to capacity of saw instantaneously—no steel teeth to mar surfaces. Guard is clear vision type. These units meet all safety requirements.

DURO

SUPER-VALUE

HEAVY DUTY

8 In. TABLE SAW



No. E3012 Table Saw
with Motor, Motor Pulley,
Belt, Stand, Remote Control
Switch and Rubber Feet.

SPECIFICATIONS

Overall height.	12½"	Width.....	27"	Depth.....	26"
Maximum depth cut.					2¾"
Table size.....					15"x18"
Working surface with extensions.....					27"x18"
Table space in front of blade (maximum cut).....					7½"
Table tilts to.....					45°
Takes Dado Heads up to.....					¾"x5"
Recommended Motor for average use.....					½ H.P.
Size motor pulley for 1750 R.P.M. Motor.....					5"
Mount on E301285 Steel Stand. Requires.....					50" V-belt

The Super-Value Heavy Duty 8-inch Table Saw has been specially designed to meet the requirements of those who need a big rugged saw that will perform heavy work for a moderate investment. To obtain the high quality of this saw and the large size and yet to sell it at a price that is far under the market, Duro has placed this machine in production in their factories on a vast scale. It is only by this large volume that costs have been reduced to permit producing a truly Super-Value Saw.

It is important to note that the price of this machine includes many extras that it is usually necessary to buy in addition to the saw. Table extensions are included to give a large working surface 27"x18". The guard, splitter and anti-kickback are furnished with the machine — not as extras. All standard equipment is included such as fence, mitre gauge, depth gauge and tilt gauge. The same quality materials and the same precision workmanship found on our Production Saws have been embodied in this saw. Compare it with any saw of its size and price range—it is an outstanding value.

The base, well balanced and fully enclosed is made from selected, seasoned gray iron. Substantial reinforcing cross ribs give it strength and rigidity. The housing which supports the spindle bearings is an integral part of the frame casting. The cast iron table bracket is supported by two posts that operate in long bearings in the main frame. The table is raised and lowered by means of a ball crank operating a gear and rack with balancing springs to offset the weight of the table for easy operation.

The table is made of high quality gray iron with deep flanges and heavy ribs to prevent warping. All tables are carefully seasoned, milled and ground to a smooth accurate finish. The table surface is 15"x18" and with steel extensions that are included with the saw there is a total working surface of 27"x18". At maximum depth of cut there is 7½ inches of table in front of the saw blade to support wide lumber. The saw cuts up to 2¾ inches depth and table may be tilted to 45 degrees. A removable aluminum insert increases the throat capacity to take dado heads up to 5"x¾". A combination rip and cross cut saw blade 8 inches in diameter with ⅝ inch arbor hole is furnished with the saw.

The saw spindle operates on New Departure Ball Bearings and has a 2¼" spindle pulley for driving it. The motor may be located below or behind the saw. Maximum utility and efficiency is obtained by mounting the saw on No. E301285 steel stand listed below. Not only is the saw properly supported but also it can be placed in any location at will so that extra long or extra wide work does not interfere with surrounding objects. When not in use it can be moved out of the way. With an individual motor maximum power is delivered to the work. If mounted on a bench it is recommended that the saw be located at the right end of the bench so that when tilted its capacity will not be reduced.

Saw is finished in attractive corduroy baked gray enamel with cadmium and chromium fittings.

ORDERING INFORMATION

E-3012—Table Saw 8", with table extensions, guard, splitter, anti-kickback, mitre gauge, fence and 2¼" spindle pulley.. Ship. wt. 73 lbs.
E-301285—Steel Stand..... Shipping weight 37 lbs.
301586—Remote Control Switch..... Shipping weight 1 lb.
301588—Rubber Feet..... Shipping weight 1 lb.
See page 50 for extra saw blades and dado heads.

America's Finest and Most Complete

PRACTICAL ADJUSTMENTS GIVE BETTER RESULTS

The Duro Heavy Duty 8 inch Saw is built for daily service in your work. It is important that the adjustments on a tool make it easy to use and yet produce accurate results. Duro adjustments are simple, accurate and have been proved practical on thousands of saws in daily use throughout the country.

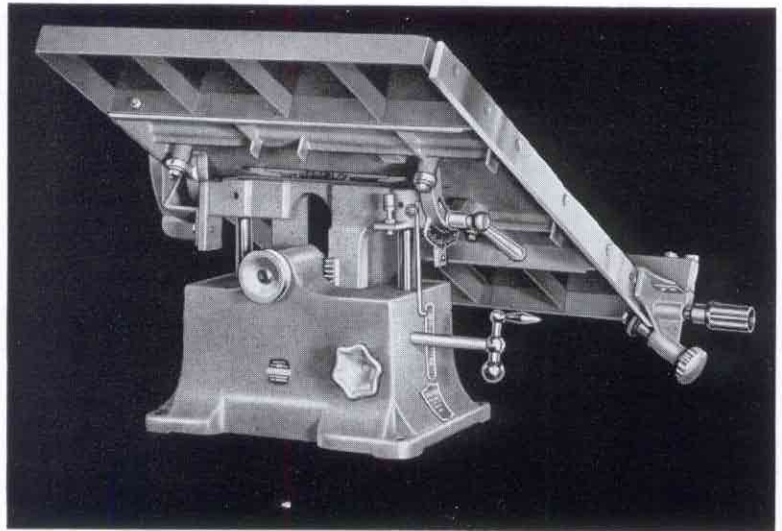
The rip fence of heavy gauge steel is supported by a cast bracket that operates on the guide bar in front. The exclusive Duro patented friction adjustment gives extreme accuracy of setting but may be quickly disengaged to move the fence rapidly across the table. The front guide bar is graduated in $\frac{1}{8}$ inches to assist in setting the fence. Fence may be used on either side of blade and is fastened in position by a conveniently located lock handle. The alignment of the fence is checked by loosening the two cap screws on top of the fence. The fence is usually set not absolutely parallel to the saw blade but toes out about $\frac{1}{32}$ " to prevent binding.

The mitre gauge mounted on a steel mitre gauge bar operates in slots on either side of the table. The mitre gauge swings to 60 degrees in either direction and locks in position. Face of the mitre gauge may be increased if desired, by screwing to it a piece of wood of the required size.

The table is raised or lowered for adjustment of the depth of cut by a ball crank and is locked in position by a hand knob on the side of the base. Raising springs balance the weight of the table so that table can be adjusted easily and accurately. The depth of cut is registered on a depth gauge indicator.

The table is tilted up to 45° by loosening a lever lock and tilts smoothly on accurately machined trunnions described at the right. The degree of tilt is accurately recorded by a tilt gauge on the front trunnion.

With these few simple practical adjustments the Duro saw is equipped to do all types of work with accuracy and with but little effort on the part of the operator.



OPERATING MECHANISM

The operating mechanism beneath the table on the Duro Heavy Duty 8 inch Saw is illustrated above. The heavy cast iron base encloses the internal mechanism including the saw blade and provides a solid support for the entire machine. The spindle housing casting is an integral part of the base and carries the New Departure Ball Bearings on which the $\frac{5}{8}$ inch diameter shaft revolves.

The table bracket rides on two steel posts which are supported by long bearings in the base. Table bracket is raised and lowered by a rack and gear controlled by a ball crank extending out of the base at the front of the machine.

The table is carried on the table bracket by two large accurately machined trunnions which permit the table to tilt up to 45° with a positive stop at the 45° and square position. Table is locked in desired position on the trunnions by a lever lock on the front trunnion.

Note the heavily reinforced and ribbed construction of the underside of the saw table. The entire Duro saw is built for durable lasting service.

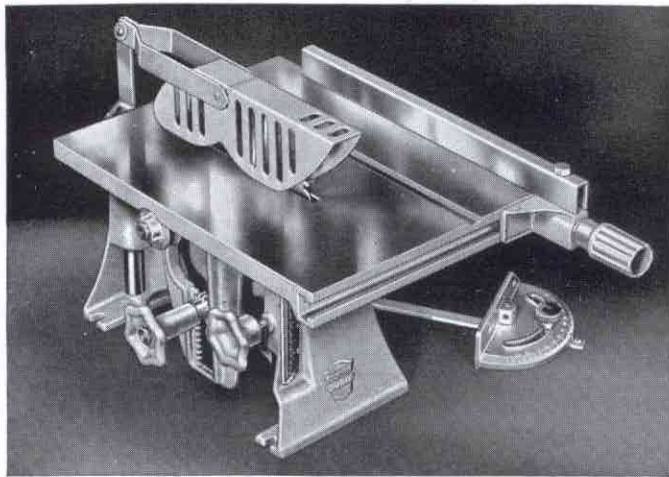
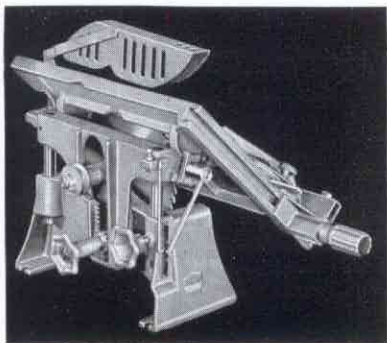


TABLE TILTS TO 45 DEGREES

Note the extra heavy construction of base and sturdy mounting of table and spindle. Wide trunnions at front and rear, travel in saddles which are part of the bracket. Table tilts accurately and smoothly to 45 degrees. Table raises by means of a sturdy geared, hand wheel. Lock provided to hold table at desired height and required angle of tilt. Heavy steel posts are built into frame at both front and rear giving rigid support to table at all times.



DURO SUPER-VALUE 8 Inch TABLE SAW

Built to the same Duro standard of values, this 8 inch Table Saw has the specifications and quality workmanship that make it an outstanding value in this price field. The Table Saw is more widely used than any other woodworking machine. To obtain a practical Table Saw at this price gives the maximum in utility per dollar. Compare it with others. The following specifications were formerly found only in machines selling at much higher prices.

Capacity — The 8-inch saw blade cuts material up to 2 $\frac{1}{4}$ inches thick. Ample capacity to handle the majority of material used in the home workshop or in maintenance work. An adjustable pointer indicates depth of cut.

Construction — All machining is held to Duro high standards of close tolerances for accuracy and efficiency. All materials are of highest quality. Base, table bracket and table are made of high grade gray iron to give rigidity and smoothness. Ground and polished spindle, $\frac{5}{8}$ " in diameter, is of high grade alloy steel, insuring a true running blade.

The large 11"x15" table is machine ground and polished. It is quickly raised or lowered by turning the large handwheel which operates the gear rack and pinion. Lock holds table at the desired height. Extra wide trunnions travel in saddles that are part of the table bracket. Table tilts to 45 degrees. Table has removable throat for dado head. Spindle runs on self-lubricating bearings seated in the base casting.

Equipped with clear vision guard, splitter, mitre gauge, rip fence and 8 inch combination saw blade of chrome alloy steel. Use a 5 inch pulley on 1750 R.P.M. $\frac{1}{2}$ H.P. Motor.

A-3011—Table Saw, 8" Shipping weight 40 lbs.

DURO PRODUCTION COMBINATION JOINTER AND TABLE SAW

Building Contractors! Schools! Factories!
Cabinet Shops! Pattern Shops! Home Work Shops!

Here is an ideal combination of the Duro Production Jointer and Bench Saw mounted on a single steel stand in one compact unit. One motor operates both tools from any light socket. Portable enough to be easily loaded on a truck and moved from one job to another. A unit of this type will pay for itself on one construction job in time and labor saved.

This combination is practical and convenient and will handle the majority of woodworking operations such as ripping, crosscutting, dadoing, tenoning, mitering, jointing, etc. There is also the advantage of being able to run both tools at one time or individually as may be desired. You will note that this combination is compact and requires little space. Yet neither machine interferes with the other, even with full capacity work. The motor is centered directly below both tools, with the belts running in a straight line to the tools. This prevents loss of power and greatly adds to the safety.

The outfit consists of our No. B-3015 Production Saw described on Page 6, including the larger table; table extension; splitter, guard and kick-back. Also our No. D-3031 Production Jointer with roller extension fully described on Page 11. Both tools are mounted on a rigid, well braced all-steel stand that includes motor supports. Note the extra base under the table saw that raises the table sufficiently to clear the Jointer when cross-cutting extra long and wide lumber. Proper size pulleys and belts are also included.

SPECIFICATIONS

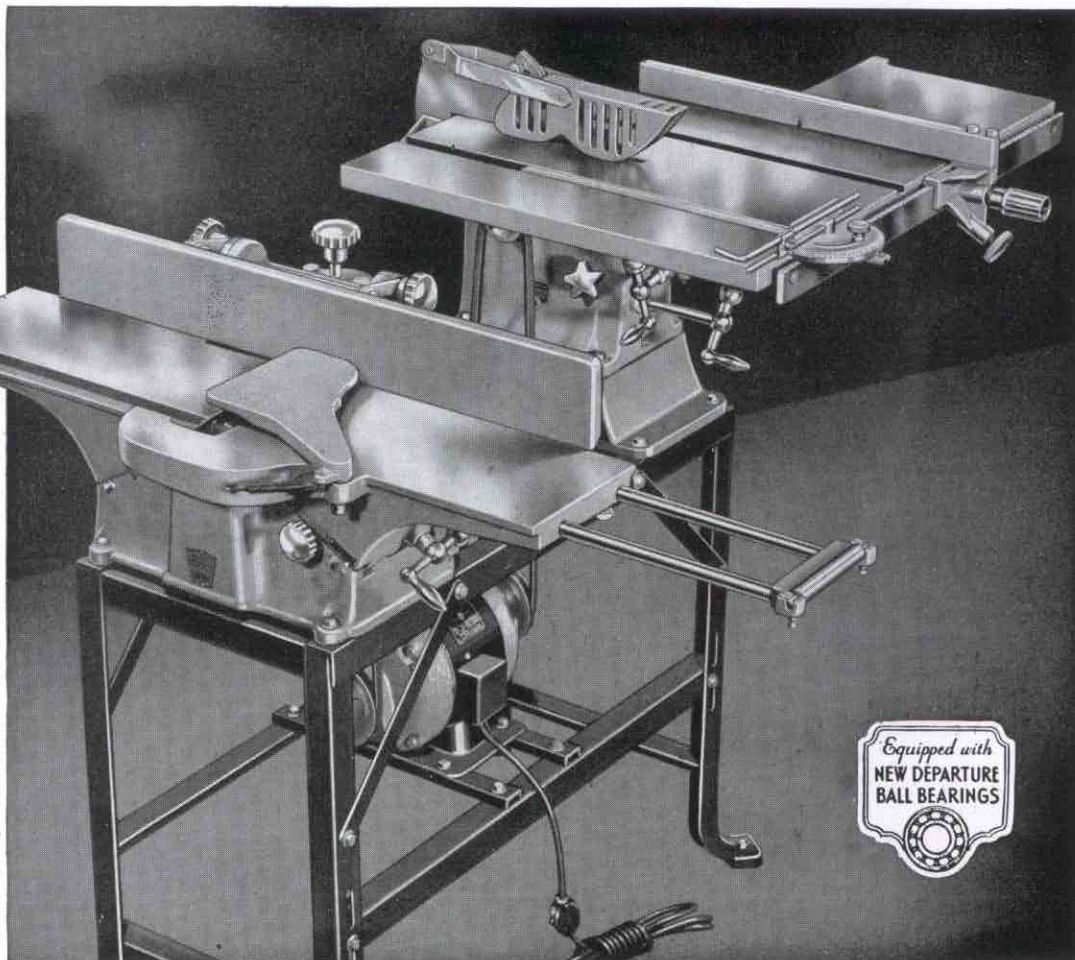
Overall width.....	4 ft. 6½ in.
Overall depth.....	3 ft. 2 in.
Overall height.....	3 ft. 6 in.
Capacity of Saw.....	2¾ in.
Dado Head, maximum size.....	⅝ x 5 in.
Table space in front of saw blade.....	12 in.
Capacity of Jointer.....	½ x 6 in.
Length of Jointer tables with extensions.....	60 in.
V-Belts furnished.....	one 40 in., one 48 in.
Recommended Motor size.....	½ H.P. for ordinary work 1 H.P. for heavy duty work
With 1750 R.P.M. Motor: Use 5" Motor Pulley for Jointer, 5" for Saw.	
With 3450 R.P.M. Motor: Use 3" Motor Pulley for Jointer, 2½" for Saw.	
Note: Motor Pulleys are furnished with outfit. State diameters and bores wanted. If not specified, two 5 in. pulleys with ¾ in. bores will be furnished.	

ORDERING INFORMATION

3036 — Complete Combination Outfit less motor. State motor pulley sizes.....Shipping weight 325 lbs.
 303685 — Steel Stand only for Comb. Outfit. Shipping weight 41 lbs.
 301575 — Sub-base only; fits A or B3015 Saw. Shipping weight 13 lbs.
 301586 — Remote Control Switch.....Shipping weight 1 lb.
 301588 — Rubber Feet for Stand, Set of 4.....Shipping weight 1 lb.
 For Jointer and Saw Accessories see pages 49, 50, and 51.

Outfit complete as pictured less motor.

- Production Jointer with 6x½ inch capacity.
- Length of Jointer Tables with Extension is 60 inches.
- 8 inch Production Saw with 2¾ inch capacity.
- Saw has large 23x18 inch Table and with extension rips to center of 44 in. panel.



DURO PRODUCTION

6-INCH JOINTER

The Duro Production Jointer gives more for your money than any other 6 inch Jointer on the market today. Here's why:—

It has a real One Piece Solid Steel Cutterhead and Shaft — providing both greater safety and also better balance for vibration-free operation. The Rear Guard — not available on some jointers, costs extra on others — is included as original equipment in the regular price of this machine. It is equipped to take the Duro patented Roller Extensions that provide table length up to 60 inches — an exclusive Duro feature. Production fence moves across table with rack and pinion, swivels, tilts, and eliminates dangerous gap between fence and rear table. Duro grinds front and rear table AFTER assembly to insure perfect alignment — an extra refinement in manufacture.

To obtain vibrationless performance and rugged durability Duro has built the base and table of this jointer of larger, more massive castings than any competitive jointer on the market.

These are some of the exclusive Plus Values included with the Duro 6 inch Jointer. In addition the general construction includes only the finest in design, materials and workmanship.

The castings are high quality gray iron, machined to precision limits. The massive base insures solidity and also provides steady substantial mountings for the shaft which runs smoothly in New Departure sealed ball bearings.

The one piece solid alloy steel cutting head and shaft is costly construction that gives strength and extra safety. On a machine of this large capacity the elimination of inserted chip breakers is an extra precaution for safety. Careful machining and balancing combine to make this the most satisfactory cutterhead assembly from the standpoint of accuracy, strength and safety.

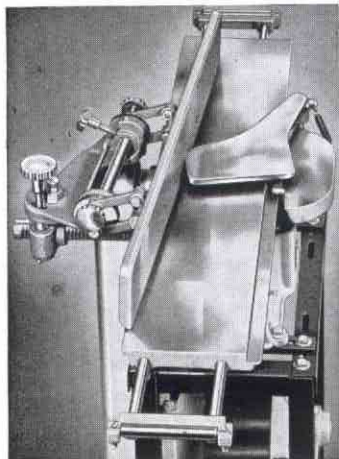
Both front and rear tables are raised or lowered by means of ball crank handles. The front table is fitted with a rabbeting arm and the rear table with a rabbeting ledge. The guard is easily detached when doing rabbeting work. The tables slide smoothly on machined dovetailed ways, and are locked in position by knurled knobs located on side of base. The dovetailed ways are fitted with adjustable gibs to take-up wear. A graduated depth gauge indicates the depth of cut.

The patented extension rods with adjustable rollers increase the table length to 60 inches overall. Long pieces are properly supported and pass easily over the Jointer. The extensions may be closed by loosening thumb screws.



FENCE MECHANISM

The exclusive Duro Safety Fence is fastened to the back table, not the front, thereby eliminating the gap between the fence and the rear table, where lumber might catch. Clearance under the front of the fence is only equal to the depth of cut — always less than the thickness of the stock. This is an important safety feature in working thin stock. The fence is moved across the table by rack and pinion operated by convenient handwheel. When moved across the table the part of the blades in back of the fence is guarded by the rear guard — a Duro feature for added safety. The fence may also be swiveled to an angle to make a shearing cut — another exclusive Duro feature. A shearing cut prevents cupping and a tendency for the grain to lift on certain woods. Also a shearing cut prolongs the life of the blade when working on glued up stock. The fence may also be tilted to 45° in either direction and locked in position by a handwheel. The degree of tilt is indicated by a pointer on a graduated scale.



CAST IRON PRODUCTION STAND

The heavy cast iron stand makes an extra solid mounting for the Production Jointer. It has built in a sawdust chute, pulley guard, motor switch with rubber cord and plug, and adjustable hinged motor mounting, all included with the stand. Use No. 3720 SES Motor with stand.

SPECIFICATIONS

Capacity.....	1½" x 6"	Rabbeting Ledge.....	¾"
Size Front Table.....	16" x 7½"	Size Rear Table.....	17" x 7½"
Length of Table.....	34½"	Overall length with extension.....	60"
Overall width.....	20"	Overall height.....	12"
Height of D-303125 Stand.....			29½"
Overall Height of Jointer on D-303125 Stand.....			41½"
Base of D-303125 Stand measures.....			15½" x 21½"
Size V-Belt for D 303125 Cast Iron Stand.....			50"
Size V Belt for 303185 Steel Stand.....			50"
Use 5 inch V Pulley on 1750 R.P.M. ½ H.P. Motor			

ORDERING INFORMATION

D3031 — Six in. Jointer with roller extensions, front and rear blade guards, fence and 2¼ inch spindle pulley..... Shipping weight 150 lbs.
 E3031 — Same as D-3031 less extensions..... Shipping weight 142 lbs.
 303145 — Adjustable Extensions, Per Pair..... Shipping weight 8 lbs.
 D303125 — Cast Iron Stand Complete..... Shipping weight 125 lbs.
 Steel Stand, Rubber Feet and Remote Control Switch shown on page 12 may also be used with D-3031 and E-3031 Jointers. See page 49 for extra jointer knives.

DURO SUPER VALUE

6-INCH
JOINTER

The Duro Super-Value 6 inch Jointer has been built to give the greatest jointer utility at the least cost consistent with good construction. It not only equals but actually exceeds competitive jointers in construction and specifications. Some of the extra refinements included in the Production Jointer have been omitted to permit a low selling price. But the essential quality and performance of this Jointer is the same, Duro quality and performance which is built into every machine on which we put our name.

The capacity is full six inches in width with up to $\frac{1}{2}$ inch in depth of cut. The cutter head is machined steel with three high speed tool steel blades properly sharpened and set in the head with chip breakers. The $\frac{5}{8}$ " diameter shaft runs on New Departure Ball Bearings which are set in the main base casting.

The heavy cast iron fence of the exclusive Duro production type is not only safer but more efficient than fences of other designs. It is illustrated and described in detail below.

The main base casting is heavy seasoned gray iron with heavy supporting ribs to provide a solid and vibration free foundation for the entire machine. The front table measuring 16 inches long and the rear table 17 inches long are mounted on the base on accurately machined ways. The tables are ground to a smooth surface AFTER being assembled which insures the face of both tables being exactly parallel. The depth of cut is adjusted by a ball crank operating on the front table. A rabbeting ledge on the rear table and a rabbeting arm on the front table make it also possible to cut rabbets by moving the fence across the table and disconnecting the front blade guard.

In addition to the extra safety of the Duro fence, a front blade guard swings out to permit work to pass over the cutters and returns by spring to guard the revolving knives after work has passed over them. Another extra safety feature is the Duro rear blade guard which covers the knives to the right of the fence when the fence is moved across the table.

When mounting the jointer a solid and substantial stand or bench is important. The steel stand listed below is ideally suited to this purpose. Not only does the stand provide a strong rigid support but it permits easily moving the machine out of the way when not required. Stand may be fastened to the floor if desired. Rubber feet for stand are available and also remote control switch.

The Jointer is attractively finished in corduroy baked gray enamel with cadmium and chromium plated trim.

SPECIFICATIONS

Capacity.....	$\frac{1}{2}$ " x 6"
Rabbeting Ledge.....	1"
Diameter of Shaft.....	$\frac{5}{8}$ "
Size Front Table.....	16" x 7 $\frac{1}{2}$ "
Size Rear Table.....	17" x 7 $\frac{1}{2}$ "
Overall Length.....	34 $\frac{1}{2}$ "
Overall Height.....	10 $\frac{3}{4}$ "
Overall Width.....	19 $\frac{1}{2}$ "
Height of 303185 Stand.....	28 $\frac{7}{8}$ "
Overall Height Jointer on Stand.....	40 $\frac{1}{2}$ "
Size V-belt for 303185 Stand.....	43"
Recommended Motor.....	$\frac{1}{2}$ H.P.
Pulley for 1750 R.P.M. Motor.....	5"

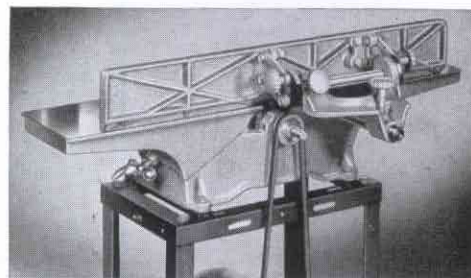
ORDERING INFORMATION

F-3031 Super Value 6" Jointer...Ship. wt. 108 lbs.
 303185 Steel Stand for Jointer...Ship. wt. 31 lbs.
 301586 Remote Control Switch...Ship. wt. 1 lb.
 301588 Rubber Feet, set of 4...Ship. wt. 1 lb.
 See page 49 for extra jointer knives.

PRODUCTION FENCE

The Duro safety fence is made of seasoned cast iron heavily ribbed to prevent warping with accurately machined face. It is fastened to the rear table, not the front, eliminating the gap between the rear table and fence where thin lumber might catch. Clearance under front of fence equals the depth of cut and is always less than thickness of the stock. This exclusive construction is superior to mounting the fence on the front table in both safety and efficiency. When fence is moved across the table the part of the cutter head to the right of the fence is protected by the rear guard attached to the fence. Fence can be tilted to 45° in either direction with degree of tilt indicated by pointer on a graduated scale.

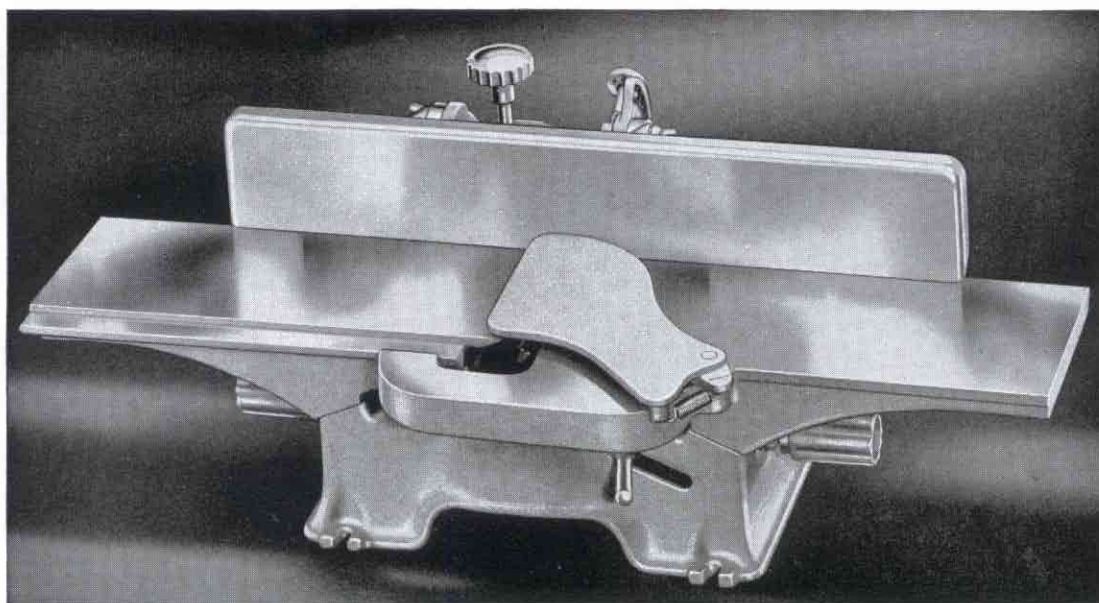
Note conveniently located hand knobs provided for locking fence when desired adjustment is obtained.



**4½ x 5/16 INCH
CAPACITY**

**PRODUCTION
FENCE**

**SAFETY TYPE
THREE BLADE
CUTTER HEAD**



DURO HEAVY DUTY 4½ INCH JOINTER

The Duro 4½ inch Jointer has increased capacity and added features that make it the greatest value in the low price field. It has a capacity of 4½ inches with 5/16 inch depth cut. The tables are longer and wider; the frame is heavier and a real production fence attached to the rear table is now included as standard equipment. Greater capacity, greater weight, more accurate performance and added improvements all combine to make this machine unequalled in its field.

The high quality, close grained, gray iron base casting is cross-ribbed for greater strength and rigidity. Added weight has been built into the frame to give extra solid and vibration free performance. Mounted in the main frame, the shaft runs on extra long and extra heavy self-lubricating bronze-bearings.

The cutter head is of the three blade type with three chip breakers. The blades are high speed tool steel, heat treated to maintain the cutting edge. After assembly of the blades and the chip breakers, the cutter head is balanced for safe operation at speeds up to 5000 R.P.M. The result of this vibrationless high speed operation is remarkable smoothness of cut.

The heavy cast iron tables operating on long milled ways are raised and lowered with a hand knob and locked in position with lever lock. In order to give support to long work without teetering, the tables are made approximately 25 inches long overall the front table

being 5½ inches wide with a 2½ inch rabbetting arm and the rear table 5½ inches wide over the rabbetting ledge. The height to the top of table is 5 inches. The working surfaces of the tables are rough ground and the castings then seasoned to prevent warping. AFTER assembly they are finish ground to insure absolutely true and paralleled surfaces. A guard completely covers the cutter head, swinging out of the way when material is passed over the jointer; instantly returns by spring.

The Duro production fence that has been added to this jointer, although more expensive in construction is far superior to the ordinary fence in versatility, accuracy and safety. The fence is mounted on the rear table, thereby eliminating the dangerous gap between the fence and rear table, the point where stock is apt to catch. It may be tilted to 45 degrees in either direction with the degree of tilt indicated by pointer on an easily read scale. Fence is moved across the tables on an arm fastened to the back table — not the front. Securely locked in any position by hand wheel. The rear guard is part of the fence base casting. The blades are always guarded regardless of position of fence — a safety feature not available in most Jointers and in others charged for as an extra.

The Jointer is furnished with a 1¾ inch pulley. Use a 4 inch pulley on a 1750 R.P.M. ½ H.P. motor for the proper speed. See page 49 for extra jointer knives.

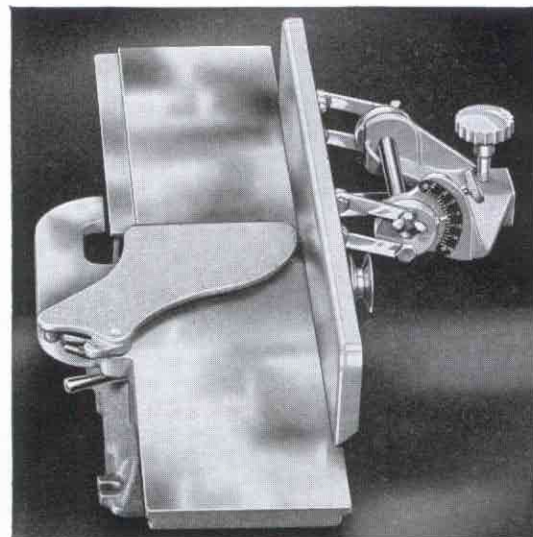
A3033 Jointer 4½" Shipping weight 38 lbs.

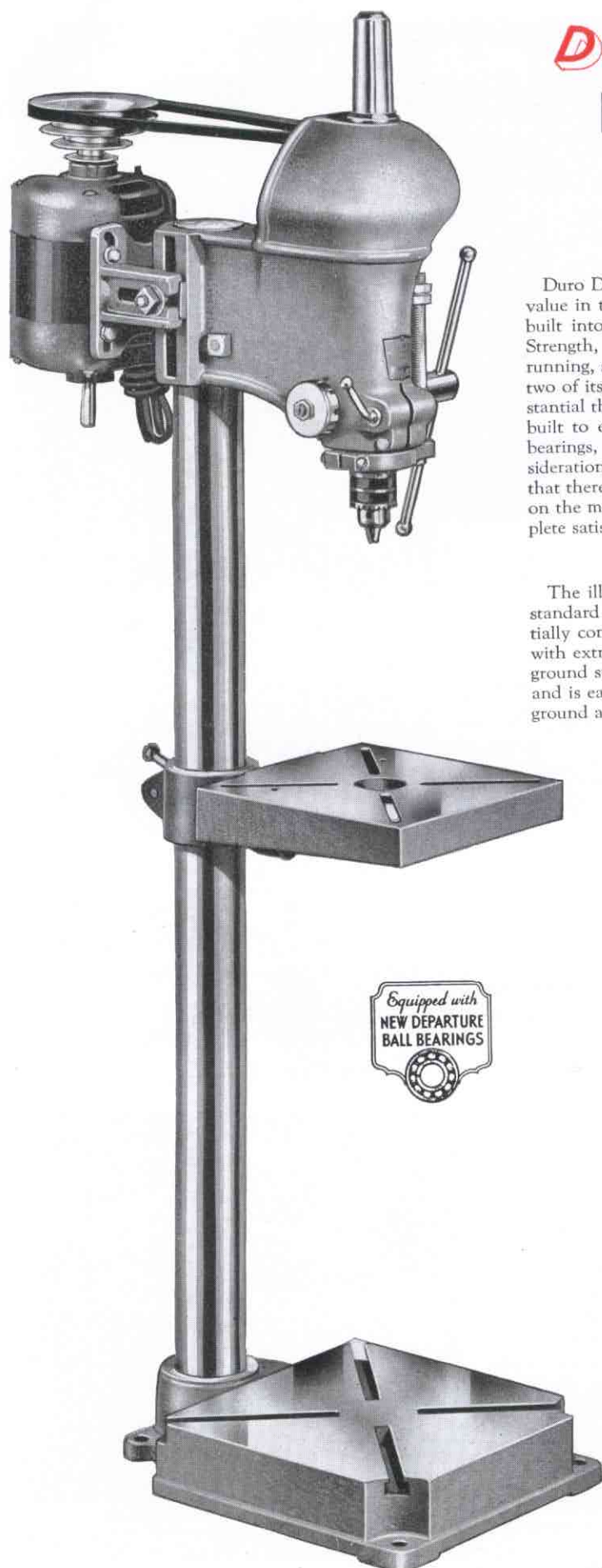
PRODUCTION TYPE FENCE

The illustration at the right shows the exclusive Duro production safety fence which is included as standard equipment on the 4½ inch Jointer. The fence is mounted on a bracket fastened to the rear table so that at no time regardless of the adjustment of the jointer is there a gap between the rear table and the fence where lumber might catch. Clearance between the fence and the front table is only equal to the depth of cut therefore always less than the thickness of the stock. This is a particularly important safety feature in working with thin stock.

The fence moves across the table on an arm attached to the rear table. A hand wheel locks the fence in any required position. As the fence is moved to the left across the table the fence bracket acts as a guard to cover that part of the cutter head that is to the right of the fence — another exclusive safety feature. The fence also tilts 45 degrees in either direction and is locked in position by handwheel with the degree of tilt indicated on a graduated scale. This fence construction is far superior in performance and safety to that of the usual jointer fence.

Note that the front table is equipped with a cam lever lock located on the left side of the base. A quarter turn of the lever locks the table solidly at any height. Even when working with heavy material the cuts are straight and an accurate joint is assured as the table is locked to the main frame preventing any tilt.



DURO PRODUCTION**BALL-BEARING
DRILL PRESS****FLOOR MODEL No. R-3081**

Duro Drill Presses, both floor and bench models, have set new standards of value in this field. You will find every conceivable requirement designed and built into these units, regardless of the type of work you wish to perform. Strength, rigidity and total lack of vibration under heavy loads and a smooth running, sensitive drill for light, fast work without vibration at high speeds are two of its many attributes. The general construction is heavier and more substantial than the usual Drill Press in this field. The mechanism is stronger and built to exceptionally close limits of the finest possible materials. The ball bearings, four of them, are larger and the tables and bases are built with consideration for the needs of the user. A careful examination will convince you that there is more dollar value built into the Duro Drill Presses than any other on the market at the present time and its performance will prove to your complete satisfaction that no finer Drill Press has ever been made at any price.

THE FLOOR MODEL DRILL PRESS

The illustration on the left shows the R-3081 Floor Model Drill Press with standard equipment. The head is heavier and the mechanism more substantially constructed than the usual Drill Press. The table and support is made with extra weight and ribs to withstand heavy loads. The base is larger, with ground surface and provided with "T" slots. The motor bracket is substantial and is easily adjusted. The 0- $\frac{1}{2}$ inch Jacobs Key Chuck with No. 33 taper, is ground and balanced to insure true operation.

A special production base with "T" slots and oil reservoir, a large production table with "T" slots and oil trough, and the hinged motor bracket shown on Pages 16 and 17 can be used to replace the standard equipment and make an extra heavy Drill Press.

HEAD AND OPERATING MECHANISM

The head mechanism has a six spline spindle of tough, hard alloy steel. The four step pulley is mounted separately from the spindle on a pulley sleeve that runs on two New Departure Ball Bearings thereby preventing the belt tension from being transmitted to the spindle. The spindle is mounted within the quill on two other New Departure Ball Bearings that take both the radial and thrust load. The details of this strong, free-running construction are shown at the top of Page 16.

The head casting is heavy gray iron with a streamlined pulley guard and a cap that encloses the upper end of the spindle. A guard for the belt and motor pulley is available as shown on Page 16. The motor mounting is adjustable vertically and horizontally and the entire head is locked to the column in the desired position with a lever lock. The spindle is tapered and has a threaded collar for securely holding adaptors and has a maximum travel of 4". The distance from center line of drill to the column is 7" making it possible to drill to the center of 14 inch stock. A depth gauge with a positive stop lock and an adjustable depth gauge with a pointer to indicate depth of hole being drilled are standard equipment. The adjustable depth gauge is graduated in $\frac{1}{8}$ " and may be set at 0" regardless of the position of the quill. The scale will then indicate the depth of the drill point at all times during the drilling operation. The head is fitted with spiral coil spring for returning quill and with a lever lock for locking quill when routing.

COLUMN, TABLE AND BASE

The steel column, 2 $\frac{3}{4}$ " in diameter, is accurately ground to form a rigid and accurate support. The table and support made of high grade gray iron is machined and ground to a smooth finish, slots are provided for holding fixtures and tapped holes are provided for holding shaper guard and guide and mortising hold down. The ground surface is 10"x10", and the table may be tilted to 45° in either direction. The base is made of close grained gray iron, 12 $\frac{1}{2}$ "x16 $\frac{1}{2}$ " overall, with a machined and ground surface of 12"x12" and "T" slots for attaching jigs and fixtures.

DURO PRODUCTION BALL-BEARING DRILL PRESS

BENCH MODEL No. R-3080

The illustration at the right shows the new improved Ball Bearing Bench Model Drill Press No. R-3080. It is massive and heavy in construction with built-in durability capable of daily production service. Not only heavy duty work but fine work requiring accuracy and precision can be performed that will meet the most exacting standards.

The exceptional performance of this drill is a direct result of the skill in design and the care taken in manufacture. Capable designing has produced the most practical and most efficient machine within many dollars of its price. Using only the best of materials and holding those materials to close limits in manufacturing has produced an accurate and durable tool. Considering utility, construction and price, we believe you will agree that Duro offers value in this Drill that is unequalled in its field.

HEAD AND OPERATING MECHANISM

The head construction of Bench Model Drill No. R-3080 is identical to that of the Floor Model Drill No. R-3081 shown on Page 14. Note on either machine that besides the four regular speeds, it is possible to obtain a special head with pulleys for slow speed work — full information on request. It is not necessary to remove the pulley guard to change steps on the drill pulley. The maximum distance from the jaws of the chuck to the table on the Bench Model is 11½ inches and to the base is 16 inches — large capacity for all purpose work. Both the Bench Model and Floor Model may be fitted with the Production Tapping Attachment shown on Page 17.

COLUMN TABLE AND BASE

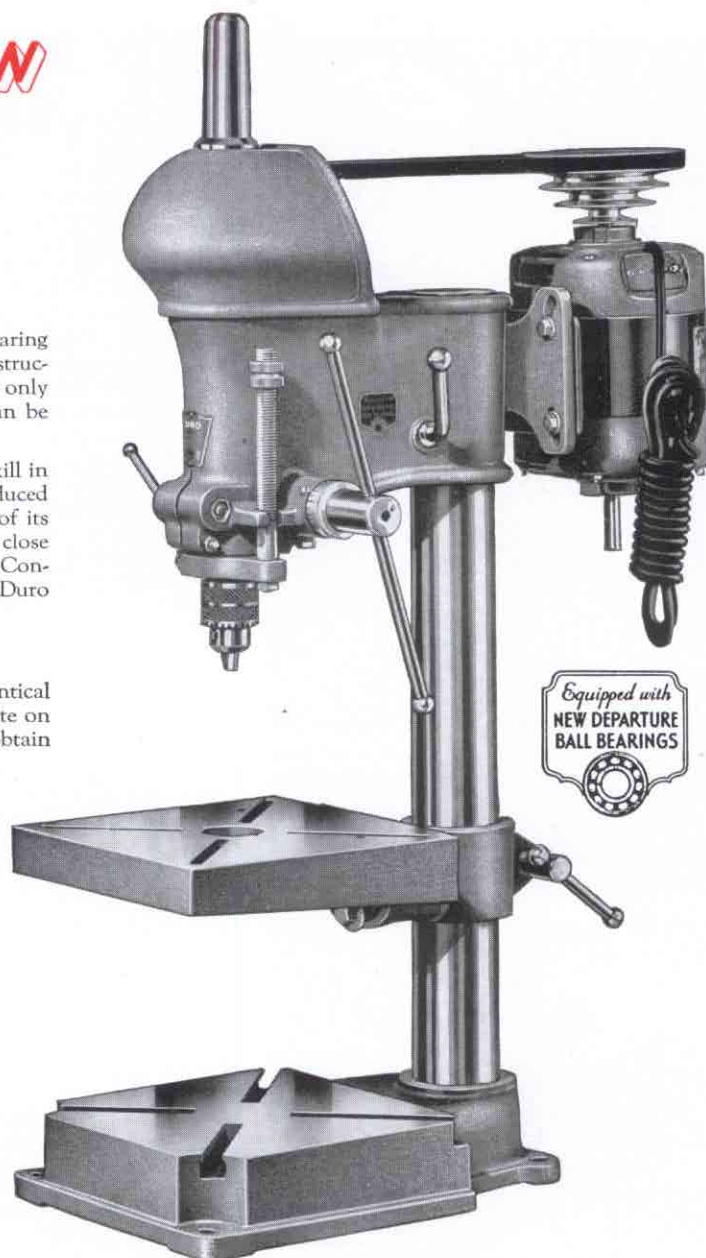
The column of the Bench Model is accurately ground to 2¾" diameter. A column collar that locks on the column under the head is available as shown on Page 17. This collar also fits the Floor Model Drill Press and is used to support the head when the head clamp is released. The table and table bracket are duplicates of the ones used on the Floor Model Drill Press, having the same construction, the same dimension and the same finish. The heavy gray iron base casting is 10½ by 15½ inches overall with a machined ground working surface 10 by 10 inches. A drill press vise to fit the table or base is shown on Page 16. In handling work of unusual size or shape the table may be swung out of the way and the base used as an auxiliary table. The base is fitted with "T" slots to hold the head of bolts used in attaching fixtures and is also provided with holes for bolting the drill to the bench.

SPINDLE CONSTRUCTION

A most important feature of both the Bench and Floor Model Production Drill Presses is the spindle construction. The lower end of the spindle is tapered and ground for No. 33 taper. Chucks and accessories fit over the taper. A collar, which screws on a threaded portion of the spindle, clamps over accessories centering them on the taper and locking them securely insuring greater accuracy and making slippage impossible. This method also permits reversing the spindle without the constant annoyance of adaptors loosening and coming off. Only one spindle is required, which is a very definite saving in the initial cost of an all-purpose Drill Press.

DRILL PRESS ACCESSORIES

The versatility and utility of the Drill Press is greatly increased with the full line of accessories and auxiliary equipment available. Drilling, boring, tapping, carving, shaping, routing, mortising and many other operations can be done economically and well. The extra quality of the Duro Construction is of great value in these additional uses of the Drill Press permitting high speeds to be maintained and heavy loads to be withstood. A full line of auxiliary equipment and accessories for these Drill Presses is shown on Pages 16, 17, 49 and 52.



SPECIFICATIONS

	Bench Model	Floor Model
Capacity in Steel.....	5/8"	5/8"
Equipped with Jacobs Chuck.....	0-1/2"	0-1/2"
New Departure Ball Bearings.....	4	4
Speed Range R.P.M.....	590 to 5000	590 to 5000
6 Spline Spindle.....	5/8" diam.	5/8" diam.
Distance of Spindle Travel.....	4"	4"
Drills to Center of Circle.....	14"	14"
Max. Dist. from base to chuck.....	16"	45 1/2"
Max. Dist. from table to chuck.....	11 1/2"	41 1/2"
Overall Height.....	41"	70"
Size Table Machined Surface.....	10"x10"	10"x10"
Size Base Overall.....	10 1/2"x15 1/2"	12 1/2"x16 1/2"
Size Machined Surface on Base.....	10"x10"	12"x12"
Diameter of Steel Column.....	2 3/4"	2 3/4"
Shipping weight.....	115 lbs.	127 lbs.
Use 1/2 H.P. 1750 R.P.M. Ball Bearing Motor for ordinary work.		

ORDERING INFORMATION

R-3080 — Bench Model with motor pulley and 40" V Belt, less motor
 R-3081 — Floor Model with motor pulley and 40" V Belt, less motor
 L-308020 — Taper Adaptor. Fits No. 33 spindle taper on our taper drill presses and takes No. 2 Morse taper shank drills.
 Note: Write for information on special slow speed head.

NEW DEPARTURE BALL BEARING SPINDLE MOUNTING

At the left is clearly illustrated the features that must be built into a Drill Press head to give complete satisfaction under all conditions. It must have rigid construction and plenty of weight in the head casting to stand up under heavy duty work and, at the same time, withstand vibration. The working parts must likewise be heavy enough to withstand stresses and strains. It must be precision machined and finely balanced to insure a free running spindle that will stand up under the high speeds that are necessary for certain operations.

The main head casting is made of high quality, close-grained gray iron. It is not only heavier than the castings usually found in Drill Presses of this type, but is better ribbed to give greater strength. The cast iron pulley guard furnishes protection from the revolving belt and pulley and it is not necessary to dismount the pulley guard when changing speeds.

The cast iron housing in which the pulley assembly is mounted is an integral part of the main head casting. The one piece spindle, made of alloy steel $\frac{5}{8}$ inch in diameter, has six splines in the upper end. The spindle is driven by a balanced four-step pulley mounted on a sleeve. This precision ground sleeve is mounted and rotates on two large New Departure Ball Bearings totally sealed for life. The ball bearings are mounted in the cast iron housing and it should be particularly noted that the upper bearing is in a position close to the center line of the pulley. The two heavy bearings, the strong sleeve and their position relative to the pulley eliminate all possibility of strain and friction on the spindle.

Strength for heavy work, precision machining and perfect balance for high speeds are built into these parts. The quill is 2 inches in diameter — larger than usual and precision machined. The head is milled and adjustable take up provided for any wear that may occur between the quill and head castings. The two New Departure Ball Bearings, prelubricated and sealed for life, are specially selected to withstand high speeds. The spindle mounted on the ball bearings, is ground and polished. The lower portion of the spindle and the bearings are housed within the quill and held in position by collars at each end.

A lever feed actuates a spur gear pinion which engages a rack cut in the quill, thereby, producing the vertical movement of the quill and the spindle within the quill. The accurately cut gear and rack operate smoothly without play or backlash.

PRODUCTION BASE

An exceptionally heavy and well proportioned gray iron base with a large ground surface for those requiring extra working space. The overall dimensions are 26 inches by 18 inches. An accurately ground working surface, 12 inches by 12 inches, provides adequate support for extra large work. It is equipped with "T" slots to take $\frac{3}{8}$ inch square head bolts — an invaluable feature as it permits holding jigs, fixtures and vises more securely.

A large oil trough completely encircles the table for carrying off coolants.

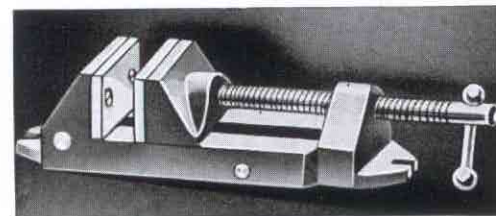
May be used with either R-3080 Bench Model or R-3081 Floor Model Drill Presses. An allowance of \$6.50 for regular R-3080 base or \$7.50 for regular R-3081 base will be made if Production Base is ordered with the Drill Press at time of original purchase.

F-308101—Production Base Shipping Weight 75 lbs.

BELT GUARD

Safety is becoming the key note in manufacturing plants and educational institutions. In fact many States have passed laws requiring guards for exposed belts and pulleys. The Duro Belt and Pulley Guard is easy to attach and simple to adjust. Note how completely the belt and pulley are guarded, and that the guard is not removed from the Drill Press when changing speeds — it cannot be inadvertently left off. Guard is made of high grade gray iron. It attaches to the front guard and is hinged for raising when changing speeds. A wing nut holds the guard so that it cannot be opened unless the operator intentionally does so. Cannot be used with Hinged Motor Mounting. Ship. Wt. 4 lbs.

H308021—Belt and Pulley Guard.

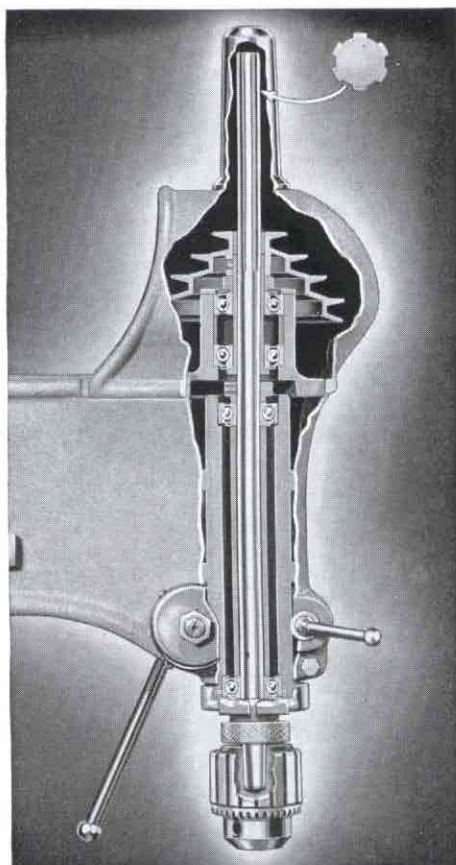


DRILL PRESS VISE

The Duro Drill Press Vise grips the work firmly and is of special value when it is necessary to drill tapered pieces or other irregular shapes that are hard to hold.

The vise is made of a heavy casting that is well ribbed to provide strength. Jaws are $2\frac{3}{4}$ " wide and open to 3". Two extra jaws for holding irregular or tapered pieces are also included. The vise is so designed that it can be bolted to the grooves in drill press tables or base.

3190—Drill Press Vise Shipping Wt., 5 lbs.

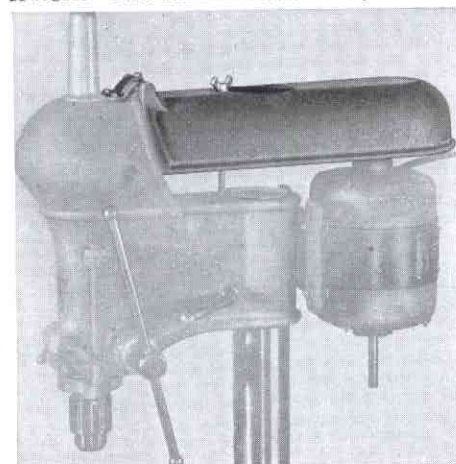


PRODUCTION TABLE

Certain types of production work require large tables. This table has a large working surface and is equipped with "T" slots to take $\frac{3}{8}$ " square head bolts for holding jigs, fixtures and vises. The table, frame and column supports are of unusually massive design to support heavy weight and withstand production work. Table is made of high quality gray iron, machined and ground. Overall dimension $13\frac{3}{4}$ " x $16\frac{3}{4}$ ". Oil trough 1" with drain plug. Ground table surface 11 " x 14 ". For use on either No. R3080 or No. R3081 Drill Press.

An allowance of \$7.50 will be made for regular table if Production Table is ordered with either No. R3080 or No. R3081 Drill Press.

H-308139—Table with Bracket, Ship. Wt. 38 lbs.



DURO PRODUCTION

MULTIPLE SPINDLE DRILL PRESSES

Supplied in two or four spindles for industrial work. Progressive shops throughout the country perform drilling and tapping operations on these machines just as speedily as on heavy multiple spindle presses and much more economically. The initial cost is just a fraction of the heavier presses and the power consumption and maintenance costs are negligible.

The spindle construction and specifications are exactly the same as on the R-3080 and R-3081 Drill Presses, strong enough for the heaviest work and sensitive enough for high speed operations. Equipped with $\frac{1}{2}$ " Jacobs Chucks. However, the extra heavy construction is designed for full $\frac{5}{8}$ " capacity in steel. $\frac{5}{8}$ " chucks can be furnished for a small additional charge. Tapping Attachment units may also be used on these heads. Heads have counterweight attachments for fast easy adjustments.

The tables are ground to a smooth accurate finish after being rough machined and seasoned. The table surfaces are ample for production work. Oil troughs completely surround tables and are drilled and tapped for $\frac{1}{2}$ " drain pipes to carry off coolants. Heavy cast iron legs are available as illustrated.

Two Spindle Dimensions: Table surface $19\frac{1}{4}" \times 29"$. Oil Trough $1\frac{3}{4}" \times 2"$. Table Top to Top of Drill Press 48". Overall Height on 2R308003 Legs 80". Center distance between spindles 12". Steel Column $2\frac{3}{4}"$ diam. Max. distance chuck to table 26". Equipped with 0- $\frac{1}{2}"$ Jacobs Chucks. Speeds 590, 1275, 2450 and 5000 RPM.

Four Spindle Dimensions: Table surface $20\frac{1}{2}" \times 50"$. Oil Trough $1\frac{3}{4}" \times 2"$. Table Top to Top of Drill Press 48". Overall Height on 2R308003 Legs 80". Center Distance between spindles 12". Steel Column $2\frac{3}{4}"$ diam. Max. distance chuck to table 26". Equipped with 0- $\frac{1}{2}"$ Jacobs Chucks. Speeds 590, 1275, 2450 and 5000 RPM.

2R3080—Two Spindle Drill Press complete less motors and legs.....

4R3080—Four Spindle Drill Press complete less motors and legs.....

.....Shipping Weight 495 lbs.

.....Shipping Weight 985 lbs.

2R308003—Cast Iron Legs. Fit either Two or Four Spindle Drill

Presses.Shipping Weight 160 lbs.

Note: Slow speed heads with special pulleys are available. Write for quotation.

PRODUCTION TAPPING ATTACHMENT



The Duro policy of offering only the highest quality merchandise is clearly illustrated by the addition of this Ertco-Emerick High Speed, Sensitive Tapping attachment that has successfully proved its ability in hundreds of factories and manufacturing plants throughout the world. Converts Duro Drill Presses into modern, efficient tapping machines. Main spindles are mounted on precision sealed ball bearings. Needle bearings on hardened and ground shafts for idler and quill gears. Equipped with improved automatic reverse having a reversing speed of $1\frac{3}{4}$ -1. Only a touch is required on the Drill Press lever — the pick-up is immediate — they never stick or grab, they are smooth, sensitive and consistent. The tap idles right hand — not reverse. This prevents chamfering or reaming of the hole — also insures longer tap life. Chuck is designed to grip on the square of all taps — no special collets required. Smooth faced jaws center the tap. The tapping attachment fits on the tapered spindle — the knurled sleeve threads on the spindle locking the attachment, assuring accuracy.

Number	Capacity	Capacity in				Maximum Speed	Shipping Weight
		Brass	Aluminum	Cast-Iron	Steel		
L308025	No. 6- $\frac{3}{8}"$	$\frac{3}{8}"$	$\frac{3}{8}"$	$\frac{5}{8}"$	$\frac{1}{4}"$	1500 RPM	7 lbs.



HINGED MOTOR MOUNTING

The illustration shows the exclusive Duro Hinged Motor Mounting. The motor is bolted to the cast iron motor mounting plate which is hinged to the bracket. The bracket is adjustable horizontally and vertically. An adjustable stud acts as a stop for the hinged plate.

By loosening the nut on the bracket, vertical adjustment for alignment is made. Adjustment for belt length is regulated by loosening the lever lock and sliding the bracket in or out. With this ingenious mounting it is not necessary to pry the belt from step to step in changing speeds. By merely tilting the motor on the hinged bracket the tension is released and the belt change is readily made. The weight of the motor exerts tension in the belt, the degree of tension being exactly controlled by the adjustable stud.

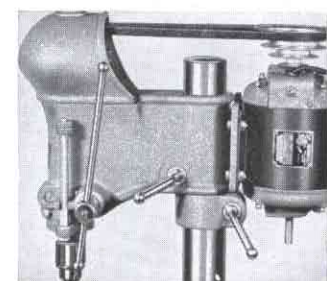
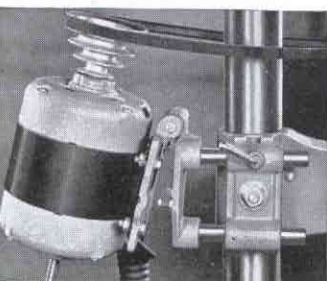
This mounting is more convenient, saves time and permits more accurate adjustments. Allowance of \$1.00 made for regular motor mounting if Hinged Mounting is ordered with either the R3080 or R3081 Drill Press.

308115—Hinged Motor Mounting.Shipping Weight 10 lbs.

DRILL PRESS COLLAR

The Drill Press Collar is for drill presses on pages 14, 15, 17 or any drill press with a $2\frac{3}{4}$ inch column. It locks on the column underneath the head by means of a lever lock and supports the head when the head clamp is released. Holds the head at a constant height above the base when it is necessary to swing the head around to work at different locations over the table.

L308118—Drill Press Collar.Shipping Weight 4 lbs.



DURO SUPER-VALUE BALL BEARING DRILL PRESS

FLOOR MODEL No. B-3087

The Duro Super-Value Drill Presses in both the floor model and bench model are designed for continuous work and will perform within the limits of their capacity both accurately and economically. Although not as heavy as the Duro Production Drill Presses shown on pages 14 and 15, the engineering is equally fine, the materials are the best and the same precision workmanship is used that is typical of all Duro Machinery. These models were recently added to the Duro line in response to public demand for a machine in this size and price range. The large volume which has developed not only proves they fill a popular need but also has made it possible to produce them at an extremely low cost. A comparison of the specifications and price will convince you of the value which has been built into these models.

The head is a heavy gray iron casting with streamlined pulley guard and a cap that encloses the upper end of the spindle. The head clamps to the column with a lever lock and has a motor mounting that is adjustable both vertically and horizontally.

In the head mechanism is a special alloy steel spindle $\frac{5}{8}$ inches in diameter with six splines. The 5 inch four-step pulley is separately mounted on two New Departure Ball Bearings that keep the belt tension from being transmitted to the spindle thereby preventing any tendency to bind. A third New Departure Ball Bearing at the lower end of the spindle absorbs radial and thrust load while a self-lubricating bronze sleeve bearing in the quill prevents whipping. The quill is returned to its original position after drilling by a spiral coil spring and may be locked in position for routing work by means of a lever lock. An adjustable graduated circular collar with pointer indicates the depth of the drill point at all times. This proved and tested construction is sturdy and accurate. It will handle sensitive work and give long service under heavy loads.

The spindle nose is fitted with a No. 33 taper to take the $\frac{1}{2}$ inch capacity Jacobs Key Chuck, or with adaptor which is available, to take standard No. 2 Morse Taper attachments. Use adaptor No. L308020 listed at the bottom of page 15. A threaded collar which screws onto the spindle securely fastens accessories assuring perfect alignment. This method of attaching the various accessories to the spindle gives greater accuracy and prevents slipping. It also permits reversing the spindle without experiencing the annoyance of adaptors loosening and coming off. And only one spindle is required — a definite saving in all purpose work.

The spindle travel is $3\frac{1}{2}$ inches with $7\frac{1}{2}$ inches from the center line of the chuck to the column making it possible to drill to the center of a 15 inch circle. The steel column, 2 inches in diameter, is accurately ground to form a rigid and accurate support for the head. The table is heavy cast iron with a machined and polished surface 8 by 9 inches and may be tilted to 45 degrees in either direction. The maximum distance from the table to chuck is 42 inches. The base measures $12\frac{1}{2}$ x 18 inches overall with machined working surface 10 x 10 inches. The maximum distance from chuck to base is 48 inches. Both the base and the table are slotted to take jigs and fixtures. The overall height of the entire machine is 71 inches.

A wide variety of work can be done on this machine, its versatility being increased by a complete line of accessories available. Besides drilling and routing it can also be used for mortising. Routing cutters, hollow chisels and bits, mortising heads, hold down and drill press vise are among the accessories available and listed on pages 16, 49 and 52.

The drill press is equipped with V-Belt and with a 5 inch four-step motor pulley to match the pulley on the drill. It is attractively finished in corduroy baked gray enamel with cadmium and chromium plated trim.

B3087 — Floor Model Drill Press with motor pulley and V-belt less motor.

SPECIFICATIONS

Capacity in steel.....	$\frac{1}{2}$ "
Equipped with Jacobs Chuck.....	$\frac{1}{16}$ " x $\frac{1}{2}$ "
New Departure Ball Bearings.....	3
Self-lubricating Bronze Sleeve Bearing.....	1
Speed Range.....	590—5000
Six Spline Spindle.....	$\frac{5}{8}$ " diam.
Drills to center of circle.....	15"
Maximum Distance base to chuck.....	48"

Maximum Distance table to chuck.....	42"
Overall height.....	71"
Size machined surface on table.....	8" x 9"
Size base overall.....	$12\frac{1}{2}$ " x 18"
Size machined surface on base.....	10" x 10"
Diameter of steel column.....	2"
Shipping weight.....	129 lbs.
Use $\frac{1}{2}$ H.P. 1750 R.P.M. Ball Bearing Motor for ordinary work.	

DURO SUPER-VALUE

BALL BEARING DRILL PRESS

BENCH MODEL No. B-3086

The Bench Model Super-Value Ball Bearing Drill Press has the same headstock as the Floor Model illustrated and described on page 18. Those requiring a bench model drill press capable of heavy duty work with moderate investment and economical operating costs will find this machine ideally suited to their purpose. The headstock is mounted solidly on a 2 inch ground column with a maximum distance between the chuck and the base of 18 inches and a maximum distance of $14\frac{3}{4}$ inches between the chuck and the table. Both table and base have machined surfaces, the table working surface measuring 8 inches by 9 inches and the base working surface 9 inches by 9 inches. The distance between the center line of the chuck and the column is $7\frac{1}{2}$ inches giving a drilling capacity to the center of a 15 inch circle.

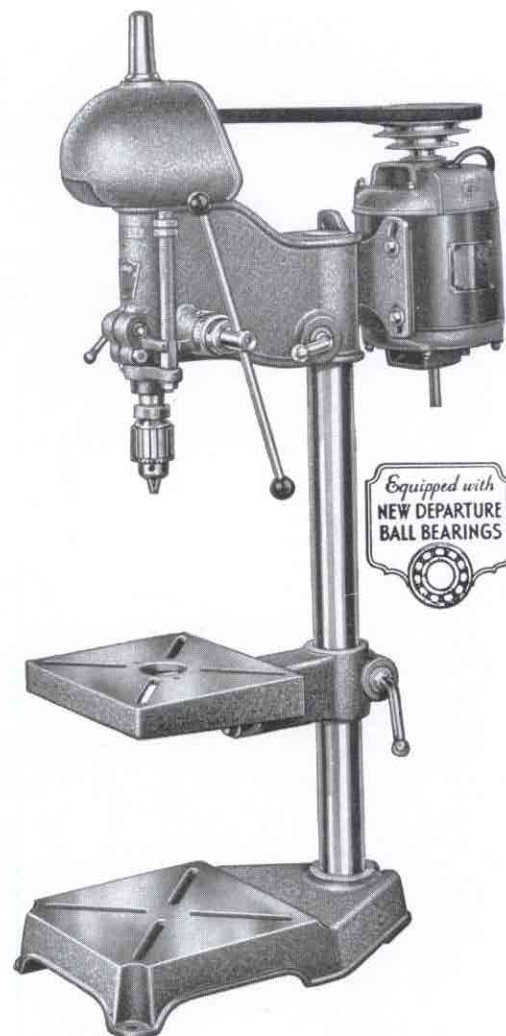
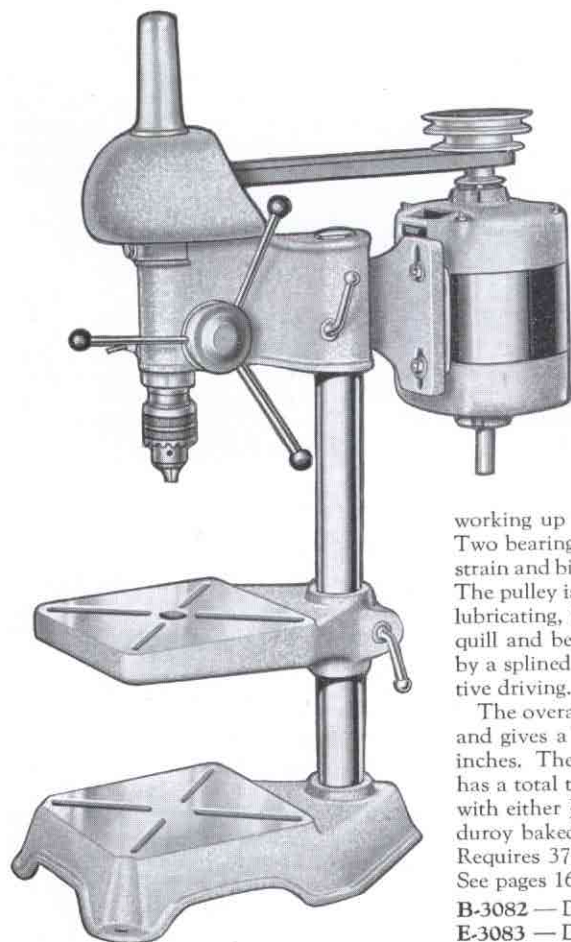
As the headstock is identical to the Floor Model, the same fine operating features described for that machine are also applicable to the Bench Model. The same accessories will fit and the same work can be done. A 5 inch 4-step motor pulley and V belt is included. Finished in corduroy gray baked enamel.

B3086 — Bench Model Drill Press with motor pulley and V belt less motor.

SPECIFICATIONS

Capacity in steel..... $\frac{1}{2}$ "
Equipped with Jacobs Chuck..... $\frac{1}{8}$ "— $\frac{1}{2}$ "
New Departure Ball Bearings.....3
Self-lubricating Bronze Sleeve Brg.....1
Speed Range.....590—5000
Six Spline Spindle..... $\frac{5}{8}$ " diam.
Drills to center of circle.....15"
Maximum distance base to chuck.....18"

Maximum Distance table to chuck... $14\frac{3}{4}$ "
Overall height.....40"
Size machined surface on table.....8" x 9"
Size base overall.....9" x $15\frac{3}{4}$ "
Size machined surface on base.....9" x 9"
Diameter of steel column.....2"
Shipping Weight.....80 lbs.
Use $\frac{1}{8}$ H.P. 1750 R.P.M. Ball Bearing Motor.



DURO 6-SPLINED SPINDLE DRILL PRESS

The Duro six spline spindle Drill Press, built to Duro standards of value, meets a definite demand for a quality machine in a moderate price field. A big Drill Press with specifications and workmanship incorporated that were hitherto thought impossible in this price range.

All machining is held to close tolerances consistent with Duro high standards of workmanship. Head, base and table are of high quality gray iron well ribbed for strength and rigidity. The ground column provides adequate support when working up to capacity. The six splined spindle runs on large self-lubricating bronze bearings. Two bearings in the main quill take the radial load, a ball bearing takes the end thrust. Driving strain and binding on the spindle is eliminated because the spindle pulley is independently mounted. The pulley is mounted on an upper quill of machined steel. The upper quill bearing, likewise self-lubricating, is mounted directly in the head casting. All driving strain is absorbed by the upper quill and bearing assuring a free running spindle at all times. The six splined spindle is driven by a splined sleeve. This construction prevents whip or backlash in the spindle and assures positive driving.

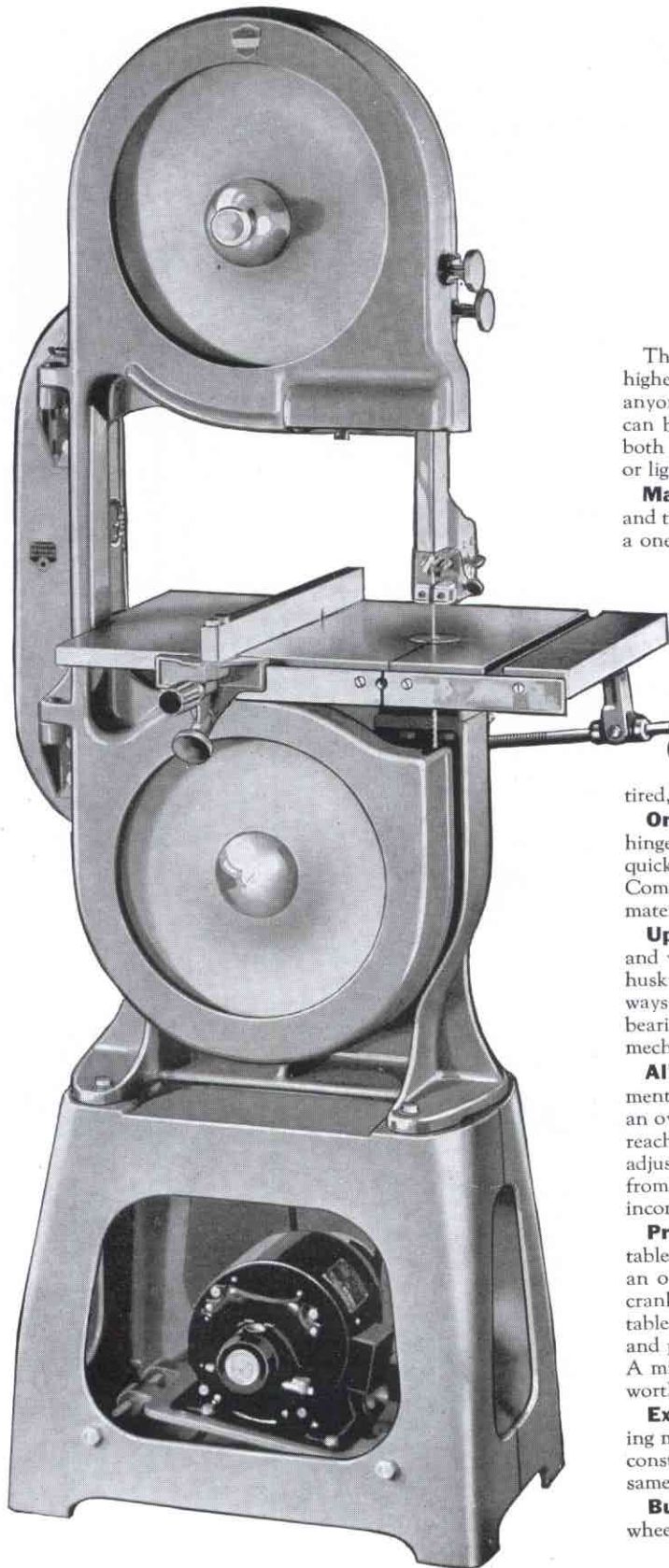
The overall height is $33\frac{1}{2}$ inches. The head casting clamps to the $1\frac{1}{8}$ inch ground steel column and gives a maximum distance from chuck to table of 11 inches and from chuck to base of 14 inches. The machined surface of the base is 8"x8" and that of the table is $7\frac{1}{2}$ "x $7\frac{1}{2}$ ". The spindle has a total travel of $3\frac{1}{2}$ inches and will drill to the center of a $14\frac{1}{4}$ inch circle. Can be obtained with either $\frac{1}{2}$ " Duro self-tightening chuck or with $\frac{1}{8}$ " to $\frac{1}{2}$ " Jacobs Key Chuck. Finished in corduroy baked gray enamel. For ordinary work use a $\frac{1}{8}$ H.P. 1750 R.P.M. Ball Bearing motor. Requires 37" V-Belt and No. 341505, 4-step motor pulley.

See pages 16, 49 and 52 for accessories.....Shipping weight 56 lbs.

B-3082 — Drill Press with self-tightening chuck less motor, motor pulley and belt.

E-3083 — Drill Press with $\frac{1}{8}$ " to $\frac{1}{2}$ " Jacobs Chuck less motor, motor pulley and belt.

DURO PRODUCTION 16-INCH BAND SAW



SPECIFICATIONS

Capacity Blade to Blade.....	16 1/4" Under guide.....	10 5/8"
Cast Iron Table Size.....	16" x 18"	16"
Table Working Surface (with wood extension).....	23 1/2" x 18"	23 1/2"
Table Tilts.....	45°	45°
Height of Base.....	19 1/2" Height of Saw.....	51"
Overall Height of Saw on Base.....	70 1/2"	70 1/2"
Takes blades.....	111" from 1/8" to 1" wide. See page 50 for extra blades.	
Recommended motor for average use.....	3/4 H.P.	3/4 H.P.
Size motor pulley for 1750 R.P.M. motor.....	3"	3"
Mounted on 302349 Base.....	Requires 60" V Belt.	

This saw was not built to meet price competition but was built to the highest possible standards for the Production Shop, the Super-craftsman or anyone who wants the finest in performance, quality and value that money can buy — A 16" Saw that stands in a class by itself — A Saw on which both finer and heavier work can be accomplished than is possible on smaller or lighter Band Saws.

Massive Oversize Construction. The entire frame, the wheel guards and the table are made of heavy seasoned gray iron castings, the frame being a one-piece casting of box type and channel design. There is no substitute for large heavy castings in the underlying construction of a machine. More actual strength is built into this machine than is necessary for even heavy production work but it is this extra strength that gives rigidity, accuracy and vibration free performance.

Cast Aluminum Disc Wheels. There is no better type wheel than the cast aluminum construction which we are using. This wheel is accurately balanced and strong, but light in weight — an important feature on a band saw. Each wheel is mounted on two large New Departure Ball Bearings. Wheels are rubber tired, and dynamically and statically balanced to prevent vibration.

One Piece Cast Iron Guard. The wheel guard is a one piece casting, hinged to swing open and fastened shut with a single knob. Guard can be quickly opened with one hand to check blade tension or to change blades. Compare this sturdiness, simplicity and convenience with guards of lighter material made of several pieces and having a number of fasteners.

Upper Wheel Mounting. The upper wheel mounting is an important and vital point on a band saw. Duro has designed a mounting unit with a husky gray iron box frame casting as a base — not a die casting. Dovetailed ways gibbed for take up, assure accuracy and long life. Two extra large ball bearings, shock spring and large handwheel adjustments make it the finest mechanism that can be built.

All Adjustments Made From the Front. Notice the blade alignment adjustment knob in the center of the upper wheel that operates through an oversize hollow spindle. The blade tension adjustment handwheel is also reached from the front. Note that the table tilting adjustment, the fence adjustment and the adjustment of the saw blade guide and guard are made from the front of the saw. Forethought and skillful design save time and inconvenience for the owner of the Duro Saw.

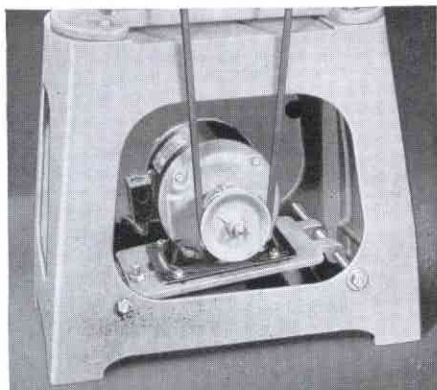
Production Table. The polished cast iron table with auxiliary wood table gives an overall working surface 23 1/2" x 18". The table is mounted on an oversize double trunnion with machined ways and is tilted with a ball crank. The degree of tilt is shown on a scale on the frame arm above the table in plain view. The fence is equipped with a micrometer adjustment and positive lock. An aluminum insert in the table protects the saw blade. A mitre gauge slot also is provided. Finest quality construction with every worth while convenience included.

Exclusive Improved Roller Guides. Duro roller guides are ball bearing mounted with a concave face that is set at an angle to the blade. This construction prevents grooving, sticking, and blade crystallization at the same time giving perfect support to the blade.

Built in Electric Light is an additional Duro feature. Built into the wheel guard to give light at the right place for perfect visibility.

ORDERING INFORMATION

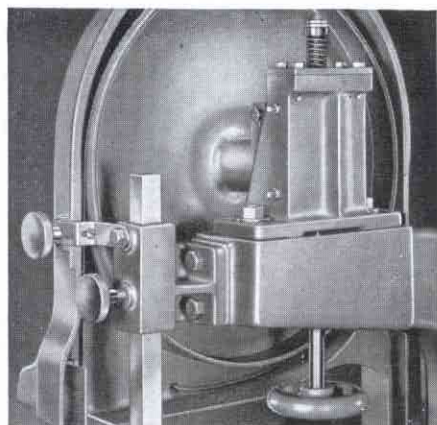
B3023 — Duro 16" Production Band Saw only, less base, motor, motor pulley and belt.....	Shipping Weight 278 lbs.
302349 — Band Saw Base complete.....	Shipping Weight 104 lbs.
D3023 — B3023 Band Saw with Slow Speed Attachment for metal cutting.....	Shipping Weight 301 lbs.
302375 — Mitre Gauge Assembly to fit slot in table.....	Ship. Wt. 2 lbs.
302470 — Remote Control Switch.....	Shipping Weight 1/2 lb.
3766 — Electric Bulb to fit in guard.....	Shipping Weight 1/4 lb.



HINGED MOTOR MOUNT FOR PROPER BELT TENSION

The base for the band saw includes an unusually efficient motor mounting. The motor is mounted in a protected position inside the base on a hinged plate. Opposite the hinged side of the plate is an adjustment screw by means of which belt tension is readily regulated. The plate is made of cast iron and has slots for all standard makes of motors.

The base itself is a heavy casting with bolt holes located on the inside of the frame so the unit may be bolted to the floor if desired. This however, will not be found necessary in most instances due to the well balanced design. The complete assembly is entirely independent and may be used anywhere in the shop or outside where electric current is available.



UPPER WHEEL ASSEMBLY

The importance of the upper-wheel mounting cannot be over-emphasized. True running wheels, a shock spring, tensioning and aligning adjustments all must be provided. The construction must be strong, rigid, long wearing yet capable of two-way adjustment with provision to take up for wear. The Duro upper-wheel mounting has all these features. The oversize hollow spindle is larger than the usual solid spindle, the New Departure Ball Bearings are heavier and the heavy cast iron box frame forms a solid base for the assembly. The frame is machined accurately and has dovetailed ways with gib take up for wear. It is rigidly mounted on the arm and adjustable for perfect alignment and accurate blade tension.

BLADE GUIDES AND TRUNNIONS

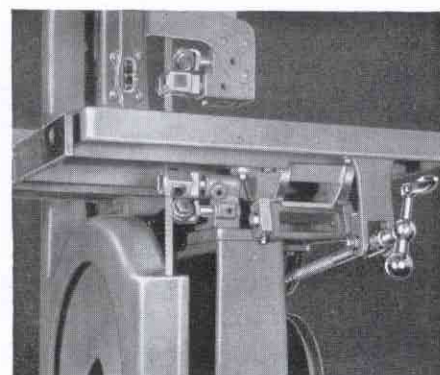
Note in the illustration to the right that lower blade guide is set close to the underside of the table. The upper guide is adjustable so that it may also be set close to the top of the work. This prevents dislocation of the blade and makes it easy to cut accurately.

Roller guides in the past have caused trouble due to grooving of the roller or due to rubbing of the blade across a roller that did not move in the same direction as the blades. The results were worn guides and crystallized blades. Duro roller guide design has entirely eliminated these difficulties. Both the upper and lower rollers are hardened and ground and are mounted on ball bearings. The rollers have a concave face and are set at an angle so that the blade contacts the entire face of the roller. The ball bearing guides rotate in same direction as saw blades to eliminate friction. This prevents grooving and greatly increases blade life.

The table is supported and tilted on an extra large cast iron trunnion with machined double ways. This sturdy mounting supports the table solidly yet permits free access to the lower guides.

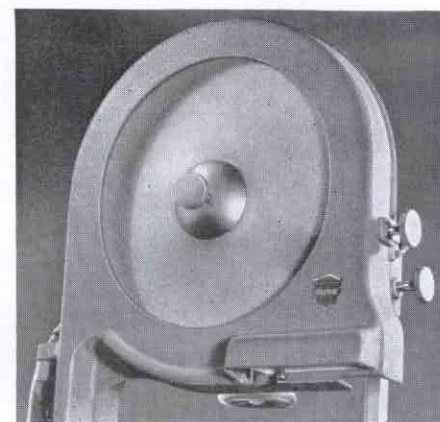
ALL ADJUSTMENTS MADE EASILY FROM FRONT

Not only the highest quality construction but also the greatest possible convenience of operation is built into this saw. What other saw can be operated and adjusted entirely from the front of the machine? The exclusive blade alignment adjustment knob in the center of the upper wheel operates through the oversize hollow spindle. The blade tension adjustment handwheel is reached under the upper wheel from the front of the machine. The ball crank that tilts the table is adjusted from the front and the degree of tilt is easily read above the table from the operating position. Also the saw blade guides and guard are set from the front. Such features are the plus values built into the Duro saw.



TILTING MECHANISM

The table is tilted with a ball crank operating an Acme thread screw and is held in any position without locking. The table tilts up to 45° in one direction with a stop for returning table to the square position. A five degree tilt in the opposite direction may be obtained by releasing the stop for square. The degree of tilt is easily read on a scale in the frame arm just above the table—an exclusive Duro feature.



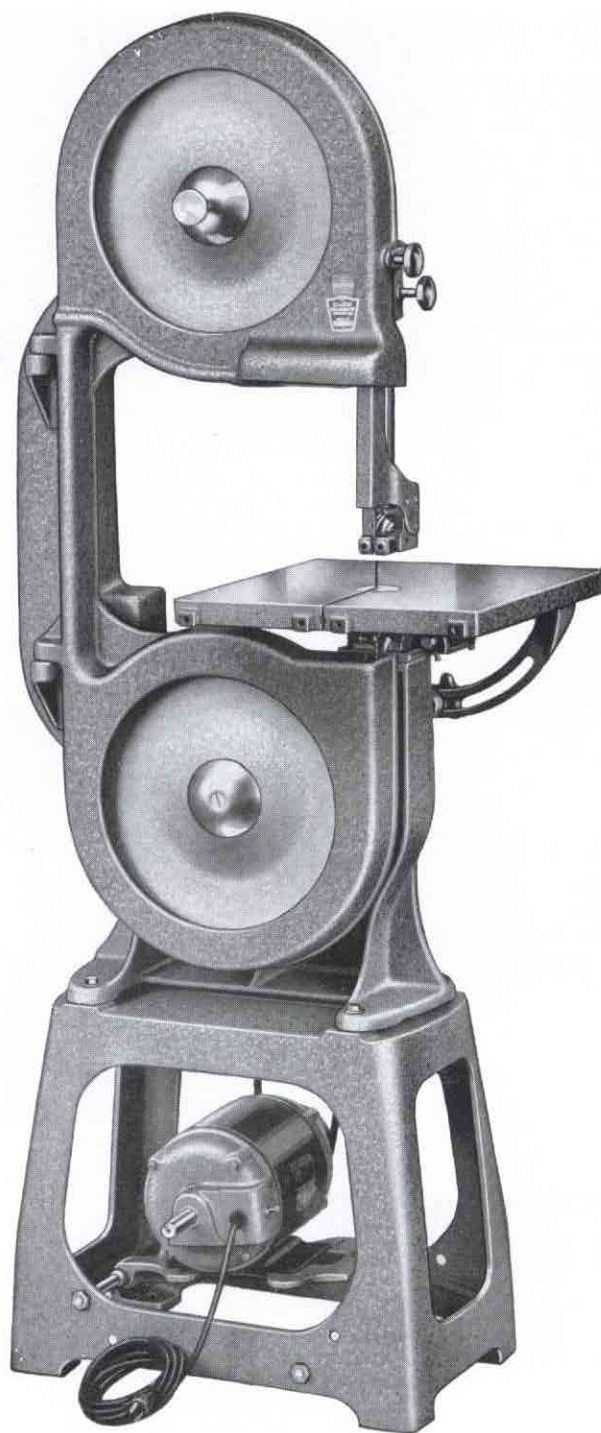
SLOW-SPEED ATTACHMENT FOR METAL CUTTING

The Duro 16 and 15 inch Band Saws shown on pages 20 to 23 inc. are ideally suited for metal cutting when equipped with the Duro Geared Slow Speed Attachment and a metal cutting blade. In numerous applications in industry throughout the country this economical installation is being used for a wide variety of metal cutting purposes. Not only tubing, extruded shapes, bar stocks, metal sheets, gates on castings but also plastics, brake lining, hard rubber, slate, fibre and many other materials are cut economically and efficiently. Moreover when a Duro saw is purchased with the slow speed attachment it can be converted to obtain standard woodcutting speeds by merely throwing a lever.

The attachment is built onto the band saw. A gear train is introduced on the lower wheel spindle that reduces the speed in a ratio of 10 to 1. This mechanism is enclosed in a cast iron housing finished in the same corduroy gray enamel as the band saw and is controlled by a lever. On the extension of the spindle is a four step pulley driven by a V-belt from a corresponding four step pulley on the motor. The motor pulley and belt are included with the complete machine.

Three New Departure Ball Bearings are used to mount the speed reducing mechanism. The entire construction is strong, accurately built and in every way a production tool. When used in connection with 1750 R.P.M. motor on 16 inch saws, blade speeds of 200, 300, 400, 560, 2000, 3000, 4000 and 5600 feet per minute are available. On the 15 inch saw, blade speeds of 188, 260, 370, 525, 1880, 2600, 3700 and 5250 feet per minute are available. Notice that a selection of four speeds in the metal cutting range and four speeds in the wood cutting range make it possible to choose a speed suitable for a wide variety of work. The 16 inch Production Band Saw on page 20, the 16 inch Super-Value Band Saw on page 22 and the 15 inch Production Band Saw on page 23 are listed both with and without the Slow Speed Attachment. Metal Cutting Band Saw blades are shown on page 50.

DURO SUPER-VALUE 16 INCH BAND SAW



No. C3023 16" Band Saw
with Base, Motor, Motor
Pulley and Belt.

This heavy production saw has all the features essential for durability and accuracy combined with the capacity to handle large work. The cost will appeal particularly to those interested both in economy and practical performance. So much machine for so little money makes this 16-inch Band Saw a real Super Value tool.

The underlying construction of this saw is the same as that of the 16-inch Production Band Saw shown on Pages 20 and 21. The same oversize gray iron frame supports two cast aluminum disc wheels, each of which is mounted on two large New Departure Ball Bearings for maximum accuracy and dependability. The wheels are accurately machined, balanced, and have rubber tires, all of which contributes to smooth vibrationless operation. The guard is a one piece iron casting, hinged and fastened with a single knob so that it can be opened and closed quickly and easily with one hand. A built in light is located on the guard, giving perfect visibility at the cutting line.

The upper wheel mounting is identical in design and construction to that of the 16-inch Production Saw. The heavy gray iron box casting has machined dovetailed ways with gib take up for wear. With shock spring and handwheel adjustments for blade tension and blade alignment, it is as fine a mechanism as can be built.

The polished cast iron table, 16 by 18 inches, is mounted on heavy double trunnions. The table tilts to 45 degrees with degree of tilt indicated on tilt gauge. Hand wheel locks the table in desired position. Table and table mounting construction are illustrated and described in detail below.

The Duro exclusive improved roller blade guides run on ball bearings and support the blades above and below the table without grooving of the concave roller face or without causing crystallization of the blade. Note that adjustment of the blade guides, the blade tension adjustment and the blade alignment adjustment are all made from the operating position in front of the machine.

The base for this saw is the same as that for the 16-inch Production Band Saw with built-in motor mounting which is adjustable to regulate belt tension. The motor mounting plate, made of cast iron, has slots for all standard make motors. Base is heavy cast iron for solid support with bolt holes so that the unit may be fastened to the floor if desired. Mounted on the base with its own motor and electric light, this unit is entirely independent and may be used anywhere in the shop or outside where electric current is available.

The capacity of the machine is $16\frac{1}{4}$ " from blade to blade and up to $10\frac{5}{8}$ " in thickness under the guide. Height of the saw alone is 51" with an overall height of $70\frac{1}{2}$ " when mounted on the base. Saw takes blades 111" in circumference from $\frac{1}{8}$ " to 1" wide. See page 50 for extra blades.

Finished in corduroy gray baked enamel with 8-inch spindle pulley, $\frac{3}{8}$ inch blade, and electric lamp bulb furnished. For ordinary work use a 3 inch motor pulley on 1750 R.P.M. $\frac{1}{2}$ HP motor. When mounted on number 302349 base, a 60" V belt is required.

C3023—Super-Value 16" Band Saw.....	Shipping Weight 250 lbs.
302349—Band Saw Base Complete.....	Shipping Weight 104 lbs.
E3023—C3023 Band Saw with Slow Speed Attachment (see page 21) for metal cutting.....	Shipping Weight 272 lbs.
3766—Electric Bulb to fit in guard.....	Shipping Weight $\frac{1}{4}$ lb.

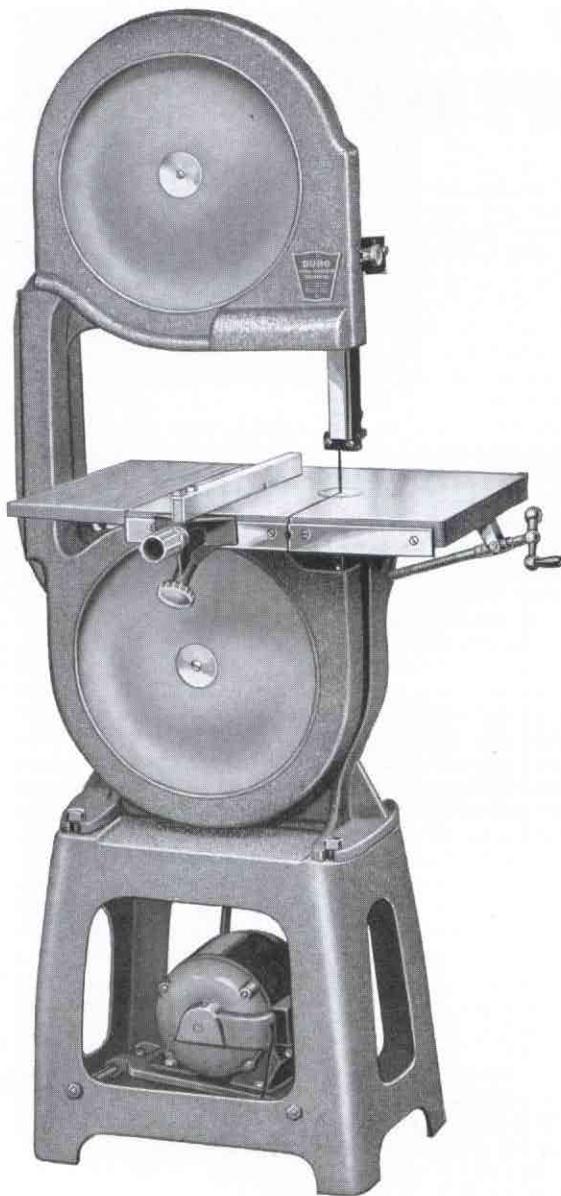
TRUNNION MOUNTINGS

The heavy gray iron trunnions illustrated at the right are oversize with two ways accurately machined to support the table rigidly in any position, yet leaving ready access to the adjustments. The trunnion clamps which hold the table onto the ways are set tight with hexagon head cap screws and have square head set screws for take up of wear that may occur over a period of time. The ground and polished cast iron table

is heavily ribbed for strength and to prevent warping or springing. The table tilts smoothly up to 45 degrees and is locked in position by means of a convenient hand knob. A pointer indicates the degree of tilt on an indicator plate located on the side of the trunnion. An aluminum insert in the table is provided to protect the blade if forced out of line. Note the rugged practical design of every detail.



DURO PRODUCTION 15 INCH BAND SAW



A new addition to the Duro Band Saw line, the 15" Production Saw was built in response to demand for a saw of this size and in this price range. The construction is similar to that of the Duro 16" and 12½" Production Saws in that only the finest and best has been built into it. Design, material, and precision manufacture have been combined to make a machine of the highest quality suitable for continuous heavy duty service.

The capacity of this machine is large. It will cut to the center of a 30-inch circle in stock up to 6⅞ inches thick. To handle this capacity the frame is an extra heavy one-piece gray iron casting made with surplus strength — pictured and described below.

The guard is a one-piece casting hinged on the frame with a single convenient hand knob to fasten it. When changing blades or when testing belt tension, the guard can be opened and closed with one hand. A built-in light located on the guard above the work gives perfect visibility at the cutting line.

Both the upper and lower wheels run smoothly and accurately on New Departure Ball Bearings. The wheels are dished so that the load is directly on the bearings and have been dynamically and statically balanced to minimize wear and strain on the bearings for long life. Wheels are rubber crowned and operate quietly without vibration.

Most important in band saw construction, the upper wheel mounting is oversize with extra engineering features built in to give accuracy and durability in service. This mechanism is pictured and described below.

The large cast iron table measures 15 by 15 inches and is ground and polished to a smooth accurate surface. A wood extension gives a total working surface of 21 by 15 inches. Table is provided with a rip fence that is accurately adjusted with the Duro micrometer mechanism. The table is tilted to 45° by means of a ball crank operating on Acme thread screw that holds the table in any position without the necessity of locking. Table automatically stops at square when returned from a tilted position. An illustration and description of the trunnion on which the table is mounted is given below.

The Duro Ball Bearing Roller guides are hardened and ground with a concave face that is set at an angle of 30° to the blade line. This exclusive improved design is the finest and most satisfactory we know and has proved its worth to thousands of Duro Band Saw users. It positively prevents grooving of the roller and eliminates friction on the blade that causes crystallization.

The tempered steel guide blocks are easily adjusted to take all sizes of saw blades. The upper guide is adjusted vertically and the lower guide is set close to the under side of the table for maximum support.

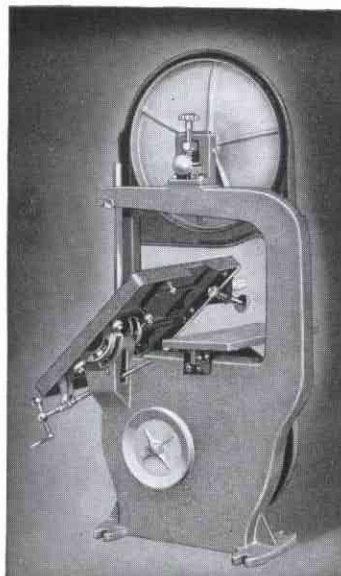
The base for the saw is made of heavy cast iron and permits the motor to be mounted in a protected position on a hinged plate. Opposite the hinged side of the plate is an adjustment screw to regulate belt tension. Bolt holes located on the inside of the frame permit base to be fastened to floor if desired.

A3022—15" Band Saw only with blade and rip fence. . . . Shipping Weight 160 lbs.
302240—Base for A3022. . . . Shipping Weight 101 lbs.
B3022—A3022 Band Saw with Slow Speed Attachment (See page 21) for metal cutting. . . . Shipping Weight 182 lbs.

FRAME AND TABLE- TRUNNION MOUNTING

The heavy gray iron box frame is the foundation for the strength, rigidity and accuracy of this saw. Note the solid one piece construction that supports all members, holding alignment and adjustment without springing or vibration.

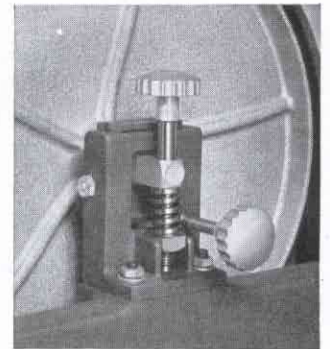
The table is supported and tilted on an extra large cast iron trunnion with machined double ways. This sturdy mounting holds the table solidly in all positions yet permits free access to lower guides and to the tilt gauge. Note the heavy cross ribbing on the under side of the cast iron table.



Capacity, Blade to Blade. . . . 15"
Capacity, Under foot. . . . 6⅞"
Cast Iron Table. . . . 15" x 15"
Table surface with wood extension. . . . 21" x 15"
Table tilts. . . . 45°
Takes Blades. . . . 95° from ⅛" to ½" wide.

UPPER WHEEL MOUNTING

An extra heavy gray iron casting forms the sturdy base for the upper wheel mounting. Inside this block, a solid steel plate slides on accurately machined dovetailed ways. Shock spring prevents sudden jar from damaging blade. Adjustment is accomplished by means of hand knobs regulating blade alignment and blade tension. Accurate machining and oversize construction produce a unit with exceptionally fine performance.

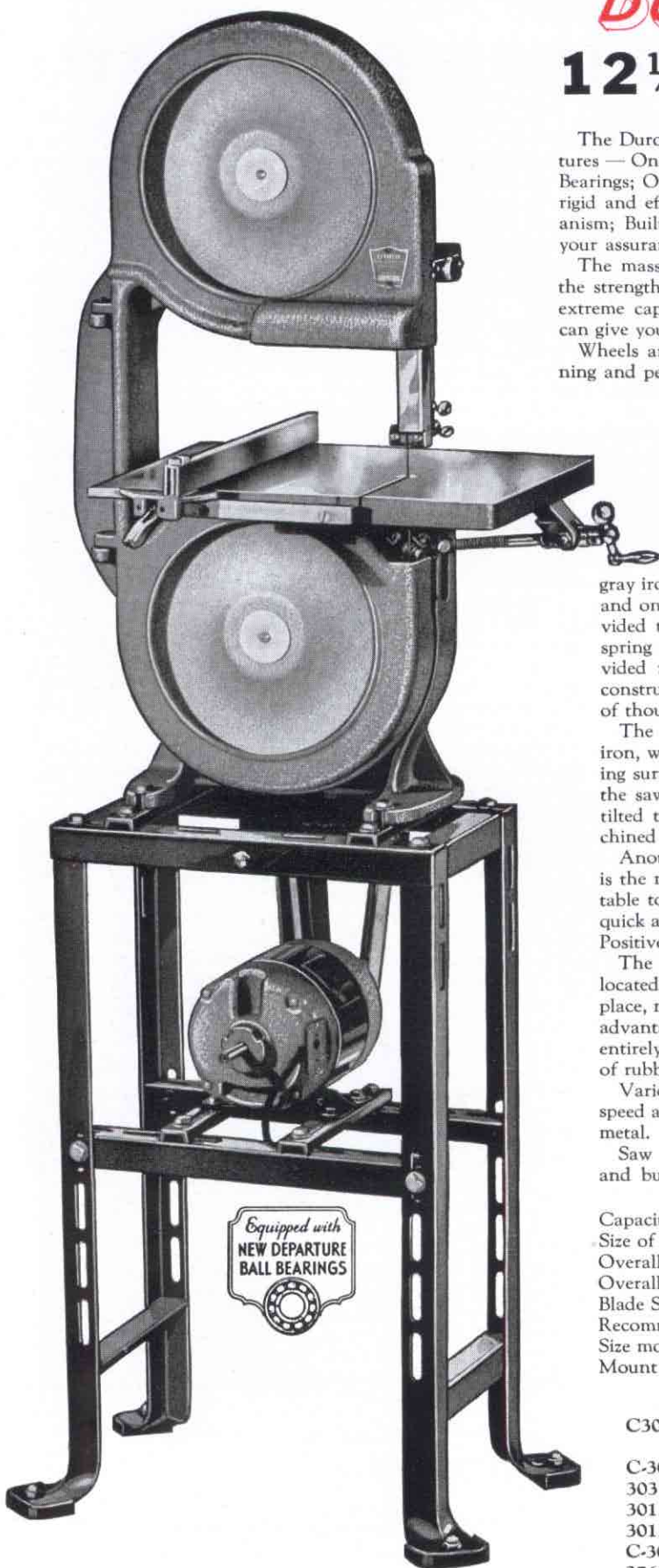


SPECIFICATIONS

Height of Saw. . . . 40"
Overall height of saw on base. . . . 63¼"
Recommended motor for average use. . . . ½ HP
Size motor pulley for 1750 RPM motor. . . . 2½"
Mounted on 302240 Base. . . . Requires 54" belt.
See Page 50 for extra blades.

DURO PRODUCTION

12½ IN. BAND SAW



The Duro 12½ inch Band Saw has the following special advantages and features — One piece cast iron box frame; Wheels mounted on New Departure Ball Bearings; One-piece cast iron guard; Improved Ball Bearing blade guides; Extra rigid and efficient upper wheel mounting; Handy screw feed table tilting mechanism; Built in light. These features plus Duro general fine construction are your assurance that this saw is the greatest dollar value in its field.

The massive construction of the one-piece gray iron box type frame insures the strength and rigidity essential in a band saw. Cuts can be made up to its extreme capacity with ease and accuracy. Only one-piece frame construction can give you such performance.

Wheels are mounted on New Departure Ball Bearings, assuring smooth running and perfect operation at all times. The dynamically balanced disc wheels of solid construction are dished to bring radial load directly over the bearings. Each wheel is crowned and rubber tired, then balanced and checked for proper alignment.

The value of the one piece guard and the Duro improved blade guide construction are described at the top of page 25.

The upper wheel mounting is of utmost importance in Band Saws. The mounting must be rigid to prevent vibration and adjustable to insure a proper alignment and take up for wear.

Duro design provides a heavy, well ribbed box frame made of gray iron carefully machined and a heavy steel block that slides in the frame and on which is mounted the upper wheel assembly. Adjustments are provided to take up wear that may occur over a period of time. A heavy spring is provided to absorb any shocks. Convenient hand knobs are provided for tensioning and alignment adjustments. This wheel mounting construction not only answers all requirements but in the actual experience of thousands of users has proved more satisfactory than any other design.

The large 13" x 13" table, ground and polished, is made of heavy gray iron, well ribbed for strength. An auxiliary wood table increases the working surface to 17½" x 13" — ample space when working to the capacity of the saw. The Table is supported by a heavy double trunnion and can be tilted to 45 degrees. Pointer indicates the degree of tilt. Table is machined for attaching rip fence which is available.

Another feature which adds to the value and efficiency of this band saw is the mechanism for tilting the table. The ball crank handle turns to tilt table to required position. The tilting screw has a coarse acme thread for quick action and holds table rigidly at any angle without clamps or fasteners. Positive stops are provided at 45° and 90°.

The electric light, built into the guard, is standard equipment. This light, located directly above the cutting area, concentrates the light in the proper place, namely on the line where the material is being cut. It has the further advantage of eliminating loose wires. Wires are run through the frame entirely out of the way. The light is furnished with 110 volt bulb, 10 feet of rubber covered cord and plug.

Various types of metal cutting are often done on this saw by reducing the speed and using metal cutting blades. See Page 50 for blades used in cutting metal.

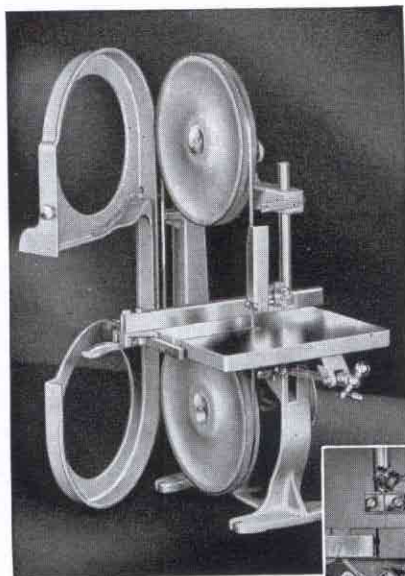
Saw is equipped with 6½" pulley, ¼" blade, 10 feet of rubber cord, plug and bulb.

SPECIFICATIONS

Capacity, Blade to blade.....12½"	Depth Capacity.....5¾"
Size of tilting table.....13" x 13"	Size of auxiliary table....4½" x 13"
Overall working surface.....17½" x 13"	
Overall Height...33¾"	Width.....25¾"
Blade Size.....78"	Front to back...13¾"
Recommended motor for average use.....	1/8" up to 1½" wide
Size motor pulley for 1750 R.P.M. motor.....	2¼"
Mount on 303185 Steel Stand.....	Requires 58" V Belt.

ORDERING INFORMATION

C3020 — Band Saw only less Rip Fence with Light,	
Bulb.....	Shipping Weight 114 lbs.
C-302007 — Rip Fence and Guide Bar.....	Shipping Weight 4 lbs.
303185 — Steel Stand for Band Saw.....	Shipping Weight 32 lbs.
301586 — Remote Control Switch.....	Shipping Weight 1 lb.
301588 — Rubber Feet for Stand, Per Set.....	Shipping Weight 1 lb.
C-302090 — Belt and Pulley Guard.....	Shipping Weight 5 lbs.
3766 — Electric Bulb to fit in guard.....	Shipping Weight 3 ozs.
See Page 50 for extra Saw Blades.	



DURO ONE PIECE HINGED GUARD

The one piece cast iron guard illustrated at the left is rigidly and substantially built to withstand vibration and to act as a perfect guard for the blade at all times. It is quickly opened by one turn of the hand knob. Consideration will show the importance of this feature. Blades are changed frequently — one operation requires a wide blade, another requires a narrow blade. On three or four piece saw guards it is a major operation to change saw blades as there are so many nuts and bolts to unscrew — on the Duro Band Saw simply turn a knob and swing the guard open to make adjustments.

Obtaining proper tension of the saw blade is also important. Every time a blade is changed, every time an adjustment is made and often when using different types of wood the tension of the blade should be tested and changed. The only place the tension can be successfully tested is at the rear side of the blade where there is no interference from the saw guides. Testing the tension is an easy matter on the Duro Band Saw — simply swing the guard open.

Another advantage is that when changing blades the guard is an absolute protection while getting the blade to "track" properly whether turning the saw by hand or by motor. Swing the guard shut, turn the saw over and protection is assured in case the blade should come off.

BLADE GUIDES AND GUIDE BLOCKS

The Duro Ball Bearing Roller Guides on the 12½" saw are the finest ever manufactured. The rollers are hardened and ground with a concave face. They are set at an angle of 30° which prevents grooving of the roller. The polished concave surface supports the blade across its entire surface and the roller travelling in the same direction as the blade eliminates all friction and consequent blade fatigue.

The tempered steel guide blocks are easily adjustable to take all sizes of saw blades. Upper guide is adjustable vertically so that it may be set close to the work. Lower guide block sets close to the under side of the table for maximum support.

DURO 9½ INCH BAND SAW

The Duro 9½ inch Band Saw is patterned after our 12½ inch Saw and is built to the same exacting standards but with a smaller capacity and corresponding reduction in price. Included are features such as, one-piece hinged, gray iron guard; one-piece gray iron frame; solid disc wheels; rigid mounting of upper wheel; and superior blade guides above and below table.

Only one-piece hinged guards can give instant access to back of blade for testing tension or complete freedom for changing blades. Simply loosen one screw to swing guard out of the way. Eliminates numerous screws and necessity of removing guard from frame.

The deep channel frame of high quality gray iron, is cast in one piece for strength and rigidity. Semi-box type construction and heavy cross ribs insures permanent alignment of wheels.

The solid disc wheels are the same type as those used on our 12½ inch saw. They are dished to bring the load strain directly over the bearings; crowned with live rubber tires and balanced to insure true running. The spindles, carefully ground and polished, are mounted on large self-lubricating bronze bearings, assuring smooth operation and trouble-free service.

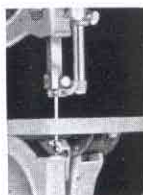
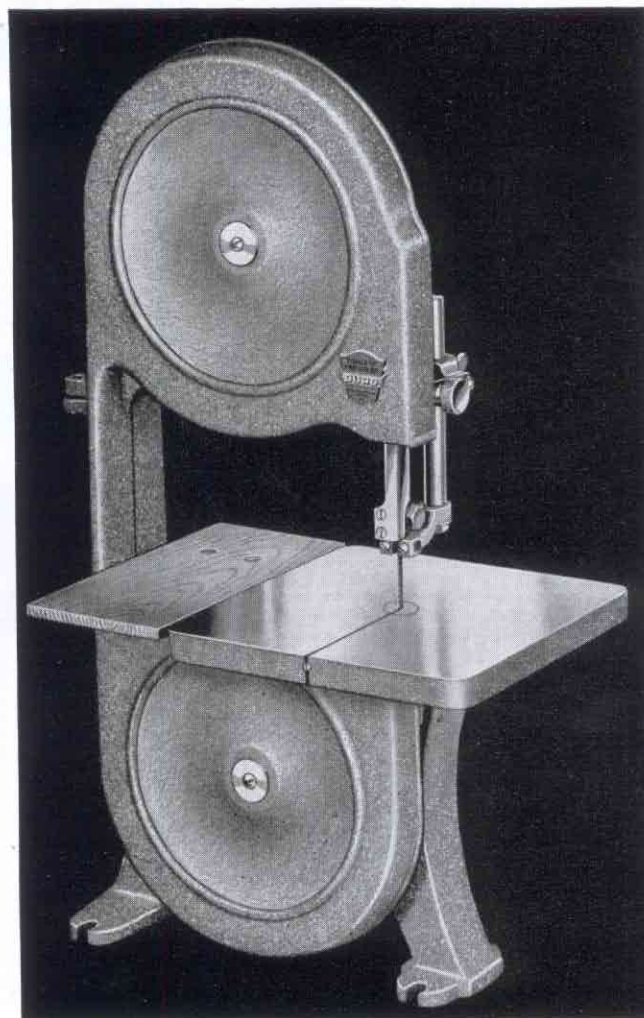
Upper wheel mounting is an exact duplicate of that used on the 12½ inch production Band Saw. The same size heavy gray iron bracket assures rigidity and positive alignment of wheels. Heavy spring absorbs shocks. Convenient hand screws permit accurate tension and alignment adjustments.

The 9x9 inch cast iron table is machine ground to a smooth accurate surface which with an auxiliary wood table gives total working surface of 13¾ by 9 inches. Designed to permit removal of blades from the front. Table is supported on a large double trunnion and tilts to 45 degrees.

The blade guides, blade adjustment mechanism and trunnion mounting of table are illustrated and described below.

Saw has capacity of 9½ inches from blade to blade and up to 4¼ inches in thickness under the guide. It measures 26¼ inches in overall height and comes equipped with 4" pulley and ¼"x60" blade. For extra blades see Page 50. For ordinary work use a 2¼ inch motor pulley on ¼ or ⅓ H.P. 1750 R.P.M. motor.

3026 — Band Saw, 9½" Shipping Weight 49 lbs.



ROLLER GUIDE, GUIDE BLOCKS

Upper guide is roller type. Blade runs on edge instead of side of hardened steel roller. Hardened steel guide blocks above and below table are adjustable for any size blade. Upper guide raises or lowers for various thicknesses. Auxiliary guard covers blade above cutting point. Aluminum disc in center of table prevents damage to blade.



BLADE ADJUSTMENT

Very accurate and positive method for holding and adjusting upper wheel. Hand screws permit either horizontal or vertical adjustments to perfectly align upper and lower wheels and put exact degree of tension on blade. Heavy spring absorbs shocks that might damage blade. An exact duplicate of device used on the 12½" Production Band Saw.



TRUNNION MOUNTING

The sturdy double trunnion slides on milled ways in frame. Can be instantly clamped with a convenient cam lever. Table tilts to 45 degrees. Adjustable pointer indicates angle of tilt. Automatic stop provided for squaring table — the most frequently used position. Note the heavy cross ribs in table — assures strength and a permanently true working surface.



Illustration shows No. 3091 Shaper with Motor, Motor Pulley, Belt, Belt Guard, Stand, Rubber Feet, and Reversing Switch.

ORDERING INFORMATION

- 3091—Shaper only, with fence, two adaptors, starting pin and necessary wrenches.....Shipping Weight 55 lbs.
 309030—Belt and Pulley Guard.....Shipping Weight 5 lbs.
 309035—Hold Down Attachment.....Shipping Weight 4 lbs.
 309085—Steel Stand for Shaper.....Shipping Weight 28 lbs.
 302375—Mitre Gauge assembly to fit slot in table.....Shipping Weight 2 lbs.
 301588—Rubber Feet for Stand. Set of four.....Shipping Weight 1 lb.
 3760—Reversing Switch.....Shipping Weight 2 lbs.
 Shaper Cutters and Collars shown on Page 49.

DURO PRODUCTION

SPINDLE SHAPER

The Duro Ball Bearing Shaper incorporates features that make it an outstanding value from the standpoint of economy and practicability. Adaptors easily changed, heavy quill housed in main frame, positive micrometer adjustment for raising and lowering the spindle, fully sealed New Departure Ball Bearings spaced far enough apart to insure rigidity of the spindle, new and improved guard and guide and precision machining are factors contributing to the worth of this shaper.

It is essential for a shaper to maintain high speed without vibration in order to perform its work rapidly and yet obtain clear smooth cuts free from ripples or cupping. The general rigidity of the machine and particularly the spindle mounting is of great importance in high speed vibrationless operation. The sectional view on Page 27 giving detailed information on Duro construction will conclusively show the thorough attention in designing that has been given to these points.

A solid base is fundamentally important in building a sturdy and rigid machine. It should be particularly noted that the housing for the quill is cast as an integral part of the base assuring solid support to the operating mechanism. This type of mounting is much more rigid and much more effective in eliminating vibration than a method of construction where the quill is not mounted in the frame or base.

The quill is raised or lowered by means of a ball crank on the front of the base giving a spindle travel of 1 inch. One complete turn of the ball crank moves the spindle only 1/20 of an inch providing micrometer accuracy in adjustment. The spindle is mounted within the steel quill on two Sealed New Departure Ball Bearings that require no further lubrication for the life of the bearings. Note that the bearings are spaced far apart to give maximum support to the spindle.

The Duro adaptors fully described on Page 27 permit using either 3/8 or 1/2 inch bore shaper cutters with the special advantage of a strong accurate cutter-mounting that can be quickly and easily changed. The design of spindle and adaptor permits running in either direction.

The table made of high grade gray iron is rough machined, then seasoned before being ground. This eliminates warpage and provides a true even surface. The table is slotted for mitre gauge and drilled and tapped to take starting pins and the fence assembly.

The fence guide has two parallel faces, both parts being adjustable and always on a parallel plane. A micrometer screw feed adjustment actuates one side of the fence. It is only necessary to make one adjustment, namely, set the fence with both sides in a straight line, then place on table and lay straight edge on table and line edge of cutter up with fence and use screw feed to determine depth of cut.

First on the market with quick change adaptor and cam action raising mechanism, the Duro Production Spindle Shaper has been widely copied but its popularity and usefulness is attested by the fact that there are many thousands in use and the mechanic that really knows prefers the Duro Shaper.

A complete line of shaper cutters and collars in both the 3/8 inch and 1/2 inch bore for use with the Duro Shaper and other shapers, is shown on page 49.

SELF-CENTERING, TAPERED SPINDLE ADAPTORS

View at the right shows our method of spindle mounting. The tapered self-centering method of holding several sizes of adaptors was first developed by Duro and though several types of tapered adaptors have since been developed, a close study will convince the mechanical-minded that Duro construction is the most substantial and accurate yet devised.

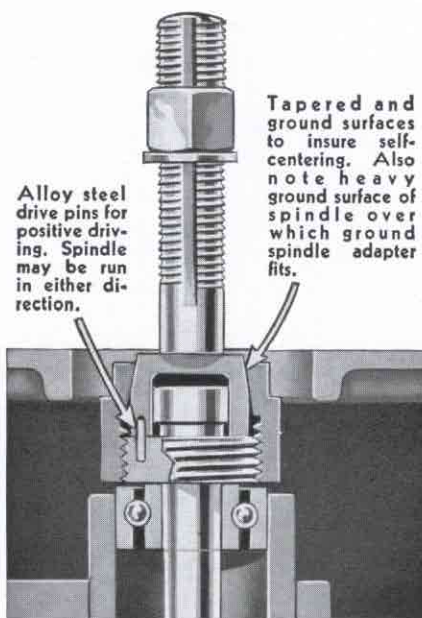
The spindle is turned and ground on centers and that part of the spindle over which the adaptors fit is likewise ground. The one piece adaptor, also ground on centers, fits securely over the top of the spindle causing perfect alignment of spindle and adaptors. This method of construction provides interchangeability of adaptors with assurance of perfect alignment. The adaptor collar fitting over the adaptor is similarly tapered and also threaded. When fitted over the adaptor and screwed down the tapers come together causing the ground face of the adaptor to be fitted against the ground faces of the spindle, holding them securely in perfect alignment.

An alloy steel drive pin is seated in the spindle and fits into the adaptor to assure a positive drive without possibility of slippage. The adaptors are keyed and a special washer is used making it impossible for the nut holding the shaper cutters and collars in position to back off, regardless of the direction in which the spindle shaper is driven.

This assembly is designed to produce a degree of accuracy in operation that cannot be obtained in less precise and less sturdy types of construction.

It will also be noted that this type of spindle mounting and adaptor assembly builds up and strengthens the complete unit at a point where the greatest amount of leverage is produced from operation of the cutters against the work.

$\frac{5}{8}$ and $\frac{1}{2}$ inch adaptors take the cutters shown on Page 49. The wrench provided fits the adaptor collar and is operated from the top of the table.



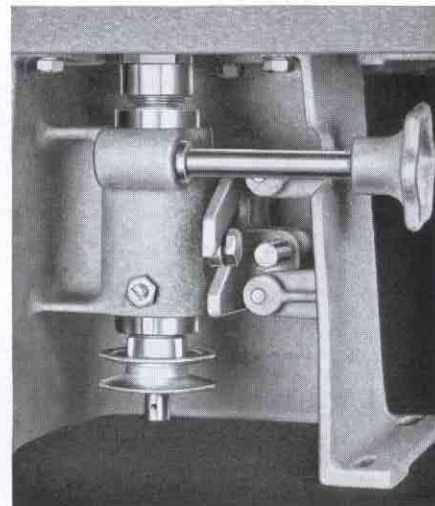
CAM CONTROLLED OPERATING MECHANISM

The drawing on the right illustrates the operating mechanism of the Ball Bearing Shaper. The patented, cam actuated, raising and lowering mechanism is recognized as superior to anything yet developed as it is controlled by a screw feed that permits micrometer adjustments — Requiring 20 turns to the inch, minute adjustments can be made, for matching cuts, that could not be obtained, if operated by hand. The danger of wear is also eliminated, likewise backlash due to worn parts.

The spindle, made of alloy steel and accurately ground, is mounted in a heavy quill and runs in two NEW DEPARTURE SEALED BALL BEARINGS lubricated for life. The bearings are spaced 4 inches apart, the pulley is immediately adjacent to the lower bearing and the adaptor to the upper bearing, thus giving perfect support to the working parts and insuring a free running spindle that is properly supported and from which all whip is eliminated.

To raise or lower the quill the ball crank advances or retracts a member having a diagonal slot in which a roller bearing slides. The roller bearing is mounted on the quill. Motion of the quill is accurately maintained in a true vertical line by a stud which acts as a key in a keyway cut in the side of the quill. Quill travel is one inch. One turn of the ball crank raises or lowers the quill and spindle $\frac{1}{20}$ of an inch. Quill is locked in the desired position by a hand knob.

Equipped with a 2 inch pulley. Use of an 8 inch pulley on a 1750 R.P.M. motor produces the necessary high speed.



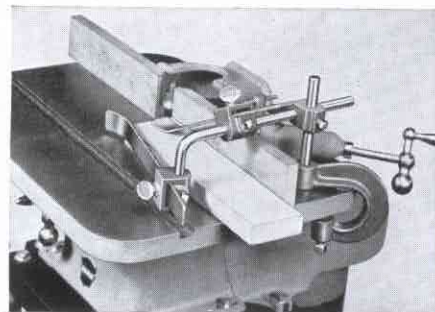
HOLD DOWN ATTACHMENT

Cutting small pieces of material on the Shaper, Jointer or Table Saw is always a difficult operation unless a hold down is used. The Duro Hold Down is not restricted for use on a single tool — it is the first practical all-tool spring hold down attachment ever presented to the woodworker. Its versatility, efficiency and the complete range of adjustment makes it one of the most useful attachments available.

The illustration at the right shows the Hold Down in use on a Shaper, but it can be used on any other tool where a hold down is required, such as the Jointer, Router, Table Saw, etc. The heavy, gray iron clamp is designed to permit use on almost any type table.

Note the wide range of adjustment. The support bar allows ample adjustment for thickness of material. The $8\frac{1}{2}$ inch extension bar gives adequate width capacity.

309035—Hold Down Attachment Complete.....Shipping Weight 4 lbs.

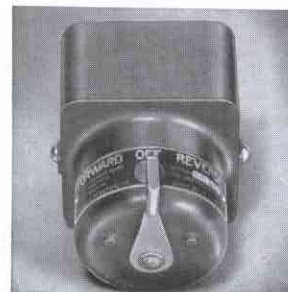


SPECIFICATIONS

Spindle Mounting.....	New Departure, Sealed Ball Bearings
Table Size.....	18" x 14"
Overall Width.....	19 $\frac{1}{2}$ "
Overall Depth, Front to back.....	11"
Overall Length of Fence.....	18"
Diameter of Spindle.....	1 $\frac{1}{2}$ "
Diameter of Quill.....	1 $\frac{5}{8}$ "
Spindle Capacity.....	5 $\frac{5}{8}$ " or 1 $\frac{1}{2}$ "
Spindle Travel, up and down.....	1"
Adaptors.....	Keyed to Spindle for operation in both directions
Recommended Motor for average use.....	Ball Bearing $\frac{1}{8}$ HP
Size motor Pulley for 1750 R.P.M. Motor.....	8"
Mount on No. 309085 Steel Stand.....	Requires 37 in. V Belt

REVERSING SWITCH

Made specifically for the Duro Spindle Shaper to our specifications and standards. It is also invaluable for use with any units that are required to be driven in both directions. Three positions: Forward, Off and Reverse. May be used on any split phase, 3-phase or D.C. motor up to $\frac{1}{2}$ H.P. capacity. Repulsion-Induction motors are reversed by shifting brushes. Ship. wt. 2 lbs.
3760—Reversing Switch.



DURO HIGH SPEED PRODUCTION ROUTER CARVER-SHAPER

Three tools in one — Router, Carver and Shaper. Three important features incorporated into one machine — Power, High Speed and Vibrationless Performance. Three values that can be purchased for less than the price of a single machine that will do equal work.

Usefulness of this unit is of utmost importance to anyone who must do Routing, Carving or Shaping with speed and accuracy. Any of these operations can be done on this machine with ease and precision that is without parallel in any other unit on the market today. In addition to its adaptability it has a surplus of:

Power to handle work up to its extreme capacity with ease. The specially designed General Electric Universal Motor develops 1200 watts at the spindle (746 watts equal 1 H.P.). Insures plenty of reserve for heavy cuts. The power developed plus the extreme high —

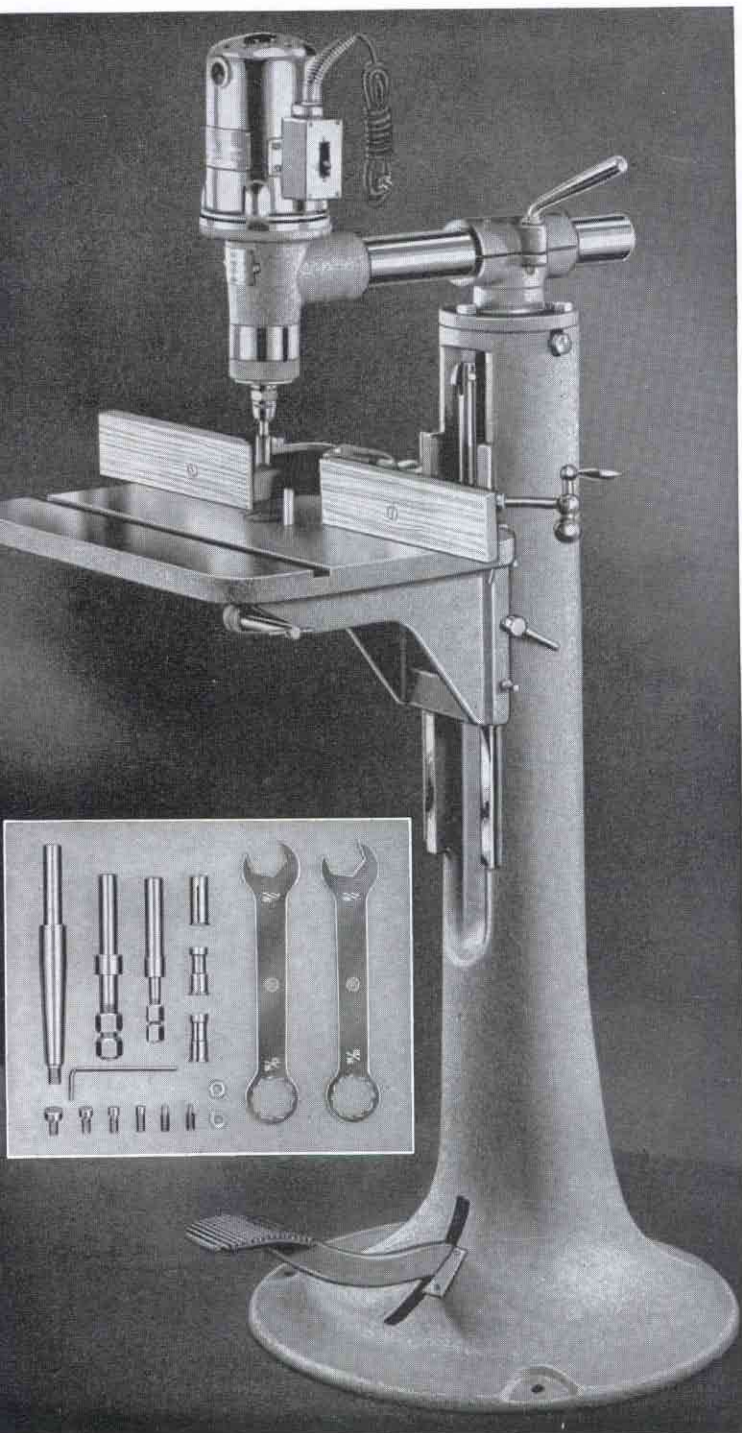
Speed of the spindle, which turns approximately 20,000 R.P.M., provides smooth, vibrationless cutting. Power, speed and the heavy —

Construction of this unit makes it a production tool built to factory requirements. Frame and table of heavy gray iron castings, specially designed General Electric Universal Motor, heavy duty New Departure Precision Ball Bearings and precision machining of all parts throughout the tool produces a unit capable of handling the heaviest or the most delicate cuts with equal facility at an exceptionally low investment and operating cost.

The specially designed General Electric Motor operates on AC or DC current, 60 cycles or less, and develops 1200 watts at the spindle (746 watts equal 1 H.P.). The Motor and spindle are ground together and then statically and dynamically balanced to insure true running. Motor is designed to run continuously without overheating. A propeller fan pulls a large volume of air over the working parts to insure cool operation. The armature and spindle are supported on four heavy duty New Departure Precision Ball Bearings and are connected by a flexible coupling. This method of construction completely absorbs vibration and prevents any shock being transmitted from the spindle to the motor when making heavy cuts while routing, carving or shaping. The chuck is an integral part of the spindle and holds adaptor and cutter extremely close to the front bearing, preventing springing or whip and providing support for smooth cutting. The motor is mounted on the end of a 2 inch diameter ground tube 14 inches long and may be swiveled or turned in any direction to meet the operators convenience.

The main frame and table are made of high grade gray iron. Every part is carefully and accurately machined to precision limits. The large 18"x14" table is ground insuring a true working surface and also has a machined slot for using a mitre gauge. A foot pedal provides for raising or lowering the table on adjustable machined dovetailed ways with a lock on the pedal slot to hold the table in a raised position for routing. The low and high position of the table is adjustable to accommodate varying types of work. A lock on the right side of the frame fastens the table in a stationary position for shaping work.

Standard equipment includes a set of six guide pins with two lock nuts, and collets for $\frac{1}{4}$ ", $\frac{5}{16}$ " and $\frac{3}{8}$ " bits to be used in routing. For shaping, adaptors are furnished to take $\frac{5}{16}$ inch and $\frac{1}{2}$ inch bore cutters together with guide fence assembly. Carving spindle is supplied, threaded $\frac{3}{8}$ "—24 to fit all standard cutters. Also included are wrenches necessary for all adjustments. Mitre Gauge Assembly may be ordered if required and also the Hold Down Assembly described on page 27 may be obtained. For router bits, shaping cutters and carving cutters see page 49.



SPECIFICATIONS

Watt output.....	1200	
Spindle R.P.M. approximately.....	20,000	
Adjustable Arm — Diam.....	2" Length.....	14"
Size of table.....	18"x14"	
Chuck capacity.....	$\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{1}{8}$ " and $\frac{1}{2}$ "	
Overall height.....	55"	
Overall width.....	23 $\frac{1}{2}$ "	
Shipping weight.....	250 lbs.	

ORDERING INFORMATION

- 3100—Router-Carver-Shaper complete, less cutters....Ship. Wt. 250 lbs.
 310060—Motor, 14" arm, carving adpt., wrenches, only, Ship. Wt. 26 lbs.
 302375—Mitre Gauge Assembly. Fits slot in table.....Ship. Wt. 2 lbs.
 309035—Hold Down Attachment. Described on page 27, Ship. Wt. 4 lbs.

SHAPING

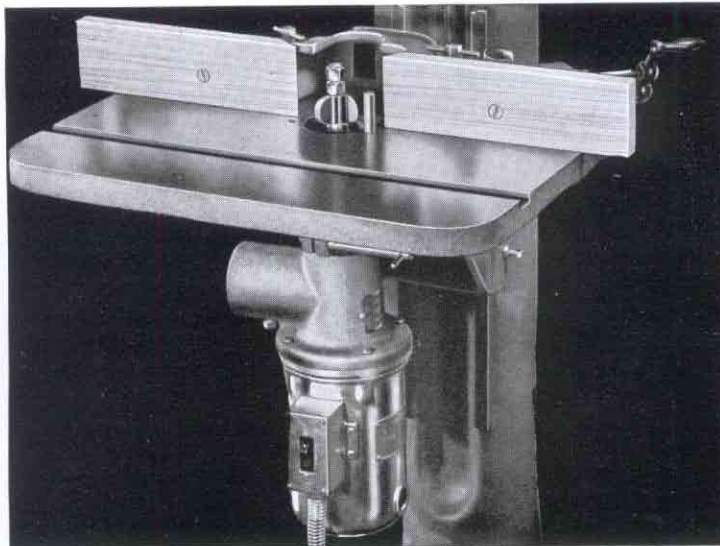
Speed, Power Output and Vibrationless performance are the important factors in efficient shaping operations. All are provided in this unit with the result that heavy or light work can be handled with equal ease.

Speed—The spindle on this unit turns approximately 20,000 R.P.M.—60,000 cuts per minute using the average three blade cutter.

Power—The General Electric Universal motor operating on 110 volt AC or DC, 60 cycle or less develops 1200 watts at the spindle (746 watts equal 1 H.P.). This power plus the high speed makes it possible to do any type of shaping most efficiently.

Vibrationless Performance—Careful designing and precision workmanship, assure the very finest performance and long life. The chuck, a part of the spindle, holds shaping adaptor close to the front bearing giving support required for smooth accurate cuts.

To convert this unit to a shaper, loosen one set screw, remove thread protector on spindle housing, screw motor into lower part of table. To raise or lower cutter, turn motor to right or left and lock with conveniently located screw. Included are adaptors for $\frac{5}{8}$ " and $\frac{1}{2}$ " bore cutters, guide pin for circular work, and heavy accurately machined adjustable guide fence. See page 49 for shaping cutters.



ROUTING

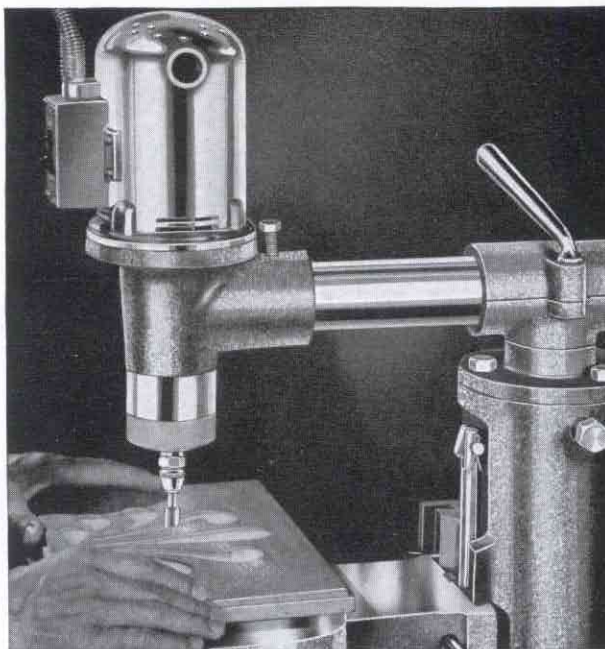
Routing requires speed and power. You get both on the Duro combination unit. 20,000 R.P.M. and 1200 watts output enables you to rout with speed, accuracy and smoothness for a low investment and at minimum operating cost.

The high speed of the powerful motor—20,000 R.P.M., with over 1200 watt output, careful design of the spindle and chuck to enable router bits to be held close to the front bearing, plus the weight and rigidity of this unit assures smooth cuts and clean work at a high rate of speed. Note position of the chuck on the large illustration at the left. The shank of the router bit enters the hollow spindle bringing the cutters close to the front bearing thereby eliminating vibration and chatter. The chuck holds $\frac{1}{2}$ inch shanks. Additional collets furnished permit the use of $\frac{1}{4}$, $\frac{5}{16}$ and $\frac{3}{8}$ inch shank bits. Use large shank bits for heavy cuts and smaller sizes for fine work.

Another feature which reduces fatigue to the operator, increases the efficiency of the unit and speeds up production is the positive lock situated on the right side of the pedal slot. The table can be adjusted to the required height when the foot pedal is depressed. The operator pushes downward and to the right to lock table positively, which allows greater freedom of movement to the operator as it eliminates the necessity of holding the pedal with the foot. To release just push downward and to the left.

To use as a router the head is released by handle at the extreme right, swiveled until the spindle is directly over the guide pin and locked there.

A set of six guide pins are included for duplicate routing or veining. Duplicate cuts can be made by jig sawing a pattern, putting a frame around the pattern, then placing it over the guide pin and putting the wood which is to be routed or veined on the frame. This method will turn out any number of pieces on a production basis with minimum effort. See page 49 for routing bits.

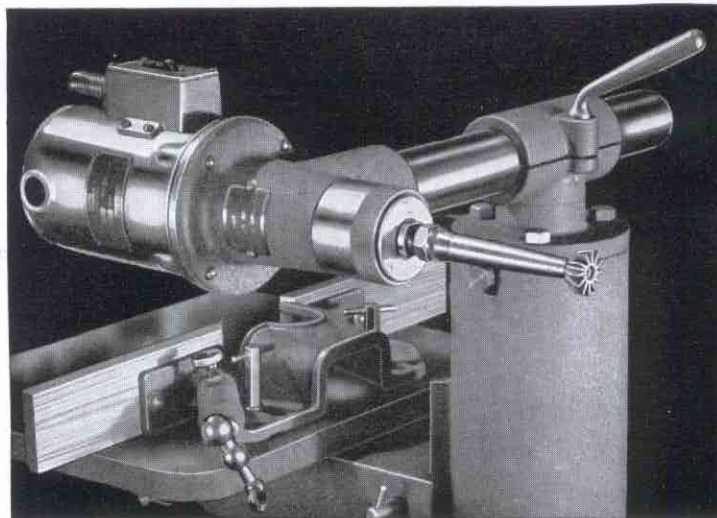


SPINDLE CARVING

Because of its power and speed this unit is more efficient up to the limits of its capacity than any other tool on the market today. All spindle carving can be quickly and accurately done on the Duro Carver. Consider the speed and smoothness with which carving is done on this tool. Spindle travels 20,000 R.P.M. The average cutter having from 6 to 14 cutting edges produces up to 280,000 cuts per minute. Creates a filing action and makes it possible to carve the lightest materials as well as heavy stock. 1200 watts output is ample power to maintain the necessary high speed. This extreme speed is impossible to attain for continuous operation on belt driven spindles such as are usually used for carving. The power and speed developed at an extremely low operating cost makes it more economical to use a Duro carver. In addition you get a three purpose unit for less than the price of one machine that will do equal work.

To set up for carving, loosen lock screw on top right side of frame, and turn motor to allow complete freedom of movement. Loosen swivel handle to turn motor to horizontal position.

Carving cutter adaptor is ground and balanced, statically and dynamically, to insure true running—necessary for this type work. Threaded $\frac{3}{8}$ "—24 to fit all standard carving cutters. See page 49 for cutters.





Equipped with
NEW DEPARTURE
BALL BEARINGS

No. B-3007 Scroll Saw with Motor;
Belt and Pulley Guard; Stand; Rubber
Feet; Remote Control Switch; Light
and Drilling Attachment.

SPECIFICATIONS

Capacity blade to frame.....	30"	Under foot.....	1 $\frac{5}{8}$ "
Crank Shaft Bearings.....	New Departure Ball Bearings		
Tension Adjustment.....	On Upper and Lower Spindles		
Blade Size.....	6" Plain End.		
Range of Speeds.....	650, 1000, 1300 and 1750 R.P.M.		
Table size.....	15" x 15"		
Overall length.....	42 $\frac{3}{4}$ "		
Overall width.....	15"		
Overall height.....	21"		
Shipping weight.....	141 lbs.		
Motor recommended.....	$\frac{1}{4}$ H.P. 1750 R.P.M.		

DURO PRODUCTION 30-INCH SCROLL SAW

Revolutionary in design — the first and only Scroll Saw with balanced power and co-ordinated working mechanism. Many types of adjustable spring tensions have been designed in an attempt to obtain a perfectly vertical up and down stroke at an even speed with same tension exerted on the blade at all positions in the stroke, but the Duro patented spring tensioning device is the first and only one that accomplishes this purpose. Synchronizing the balanced mechanism with the motor is another distinct accomplishment of the spring device. The result of this refinement in design and construction is elimination of "whip" from the saw blade with consequent longer blade life, smoother, quieter operation than ever before possible, and reduction of wear on working parts.

Extra capacity has been built into this saw. It will cut to the center of a 60 inch panel, and if necessary, the upper arm may be removed to give unlimited capacity. The heavy cast iron base, the massive arm of box type construction insure rigidity and vibration free performance. The large cast iron table, 15"x15" is machined and surface ground.

Precision machining of all parts characterizes this saw as it does all Duro tools. The driving mechanism is balanced, machined and ground to the closest limits. Running in a bath of oil, it performs smoothly and quietly. The crankshaft runs on New Departure Ball Bearings. The operating mechanism is as carefully designed and balanced as the crankshaft of a fine automobile.

The Duro Production Scroll Saw has built into it every convenience for easy accurate work. Hardened steel, tight gripping chucks open at the front, allowing blades to be inserted easier and faster. Upper and lower adjustable guides with adjustable spring hold-down foot on upper guide. Lower guide adjusts close to table for saber saw work. Positive piston type pump forces a

continuous flow of air to blow saw dust from work. Quick adjustable hand lever lock for table tilt. Aluminum insert in table to protect blade. An adjustable light and drilling attachment are available for further convenience.

ORDERING INFORMATION

B-3007 — 30" Scroll Saw only with 33 in. V Belt and 4 Step motor pulley;	Shipping weight 141 lbs.
A-300785 — Stand with 2" wood top.....	Shipping weight 52 lbs.
B-300790 — Belt and Pulley Guard.....	Shipping weight 5 lbs.
301586 — Remote Control Switch.....	Shipping weight 1 lb.
301588 — Rubber Feet for Stand, per Set.....	Shipping weight 1 lb.
3351 — Drilling Attachment.....	Shipping weight 4 lbs.
3765 — Adjustable Electric Light.....	Shipping weight 2 lbs.

Scroll Saw blades and files shown on Page 50.

ADVANCED DESIGN OPERATING MECHANISM

The illustration at the right is a cutaway view of the operating mechanism of the Duro 30-inch Scroll Saw. In addition to the exceptionally fine general construction of this mechanism, the Duro patented blade tension balancing unit is an outstanding contribution to scroll saw design. No other improvement that we know of has added as much to scroll saw efficiency and operation.

Correct blade tension is of the utmost importance for smooth scroll saw work and for long blade life. The Duro 30-inch Production Scroll Saw is the first and only Scroll Saw, that fully equalizes blade tension at all positions of the stroke. This is accomplished by adjusting blade tension from both TOP AND BOTTOM of the blade. Tension is first adjusted from above by the wing nut in the end of the upper arm according to the requirements of the work and size blade being used. Then the hand knob at the side of the crank case is adjusted to produce the correct tension on the blade from below. The action of this lower tension adjustment combined with the upper tension adjustment synchronizes all working parts producing an even tension on the saw blade at the positions of the stroke and resulting in a smooth even flow of power. This ingenious mechanism prevents all whip in the saw blades such as was produced by the old coil spring mounting thereby eliminating the principal cause for blade crystallization, breakage and excessive wear. The smallest and finest blades can be used as well as the heaviest with the assurance that best results will be obtained.

The complete driving mechanism is made up of precision parts, light in weight, machine ground to the closest limits and balanced to prevent vibration. The crank shaft is mounted on New Departure Ball Bearings and the entire mechanism is enclosed and operates in a bath of oil. Crankcase is provided with breather cap on rear of crankcase and has set screw on side of crankcase that is removable to fill with oil to proper level.

EVERY IMPROVEMENT - EVERY CONVENIENCE

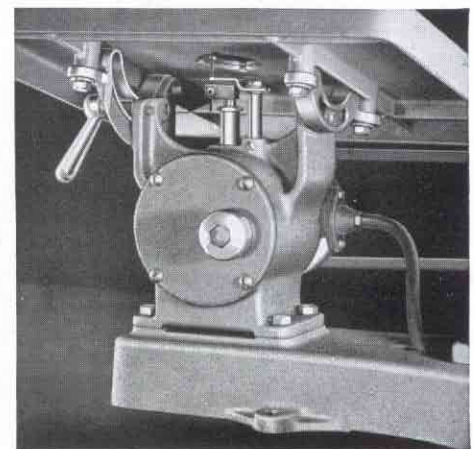
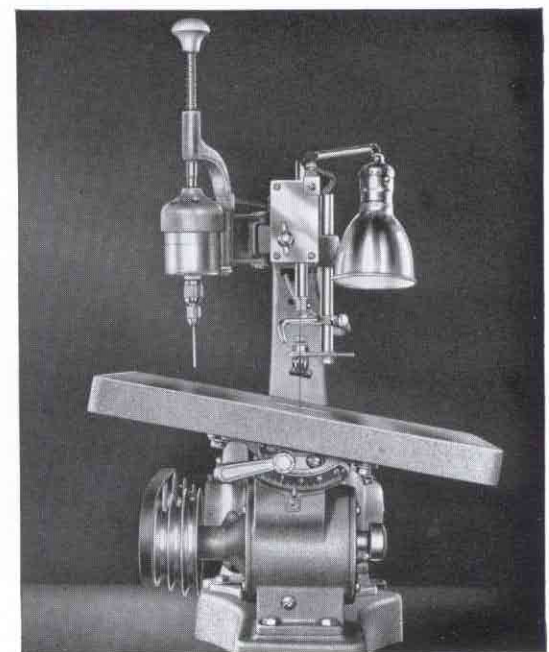
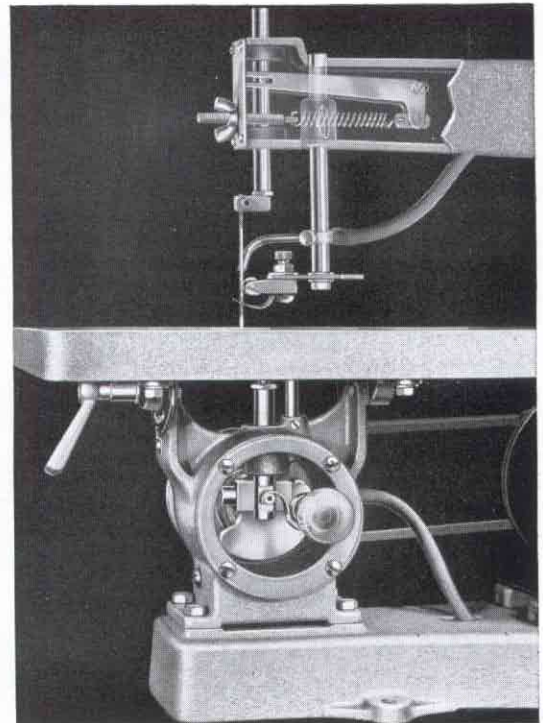
Extra utility and added convenience of operation have been built into this saw. Every improvement that will make it easier to operate, that will make it more flexible and that will produce more satisfactory work has been included in its construction.

An adjustable electric light may be attached to the upper arm to throw light at just the right angle. A drilling attachment to drill scroll saw work right on the table of the saw is available. The table tilts 45° in one direction, 10° in the other with the degree of tilt indicated on a graduated gauge. Table is locked in position with a quick adjusting hand lever. An aluminum insert in the table protects the saw blade. The sawdust blower with positive piston pump has an adjustable nozzle. The upper blade tension adjustment on the end of the upper arm and the lower blade tension adjustment on the side of the crank-case are conveniently reached from the operating position in front of the saw. The foot is equipped with a spring hold down that holds the work flat against the table. A roller guide on the foot backs up the blade to prevent springing it when work is fed. The foot can be adjusted for various thickness of work and various size blades and can also be set for cuts at right angles to the usual cutting position. A blade guide underneath the table adjusts close to the table for maximum support, — of particular value in saber saw work. The upper and lower chucks firmly grip all types of plain end blades and may be set at right angles to the usual position for cutting extra long work. Chucks have hardened steel jaws that are adjusted with socket head cap screws. A special chuck to fit the shanks of bench files is furnished. The four step pulley provides crank shaft speeds of 650, 1000, 1300, and 1750 R.P.M. to cover all types of work. Motor pulley and V belt are included.

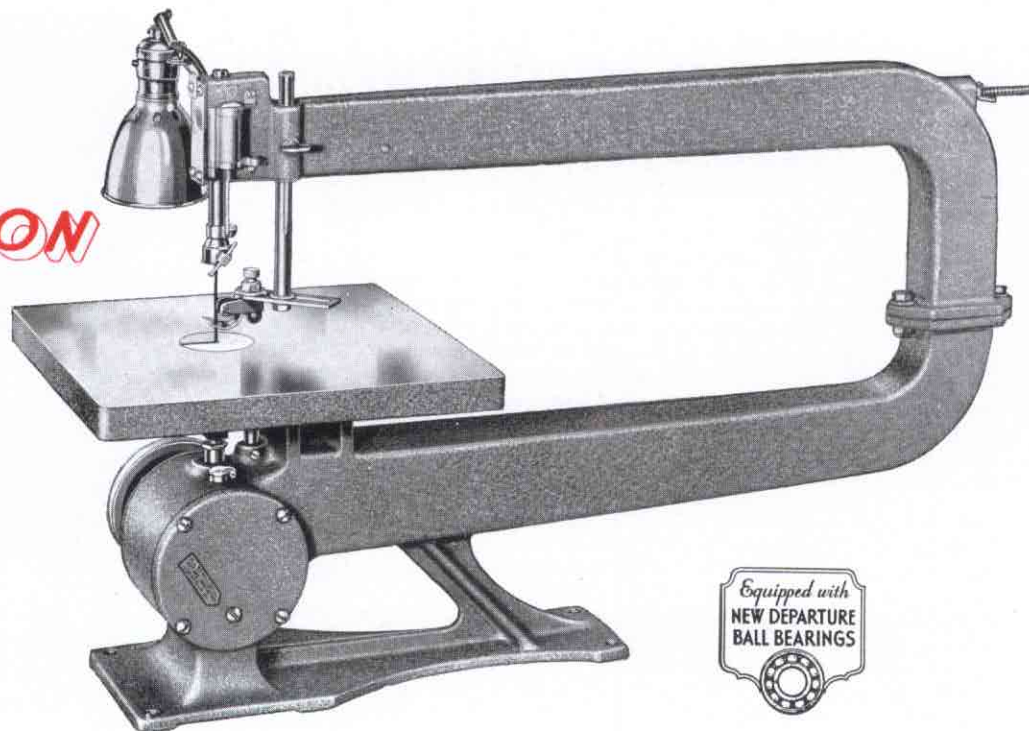
TRUNNION TABLE MOUNTING

The close-up illustration of the construction under the table as shown at the right clearly shows the sturdy design of this saw. Note the heavy cast iron table 15 inches by 15 inches with cross ribs for added strength. Table top is ground and polished to a mirror like finish. The table is mounted solidly on two large trunnions with a quick acting hand lever that locks it at the desired position. Table may be tilted 45° to the right and 10° to the left. Face of the front trunnion is graduated and pointer indicates the degree of tilt. The crankcase is firmly bolted to the heavy gray iron base that also carries the motor mounting and at the opposite end, the upper arm. Crankcase, motor, and arm are all rigidly held in alignment on the common base.

The illustration at the right shows the lower tension adjustment knob on the side of the crankcase. Also has an oil level set screw in the side of the crankcase and a breather cap on the back of the crankcase. The positive piston type pump for sawdust blower, with air tube that leads to the blower nozzle, is shown just in back of the breather cap. Note the lower blade guide that adjusts close to the underside of the table for the most effective blade support. Lower chuck is tightened with a socket head cap screw and has hardened steel jaws that firmly grip all types of plain end blades.



DURO PRODUCTION 24-INCH SCROLL SAW



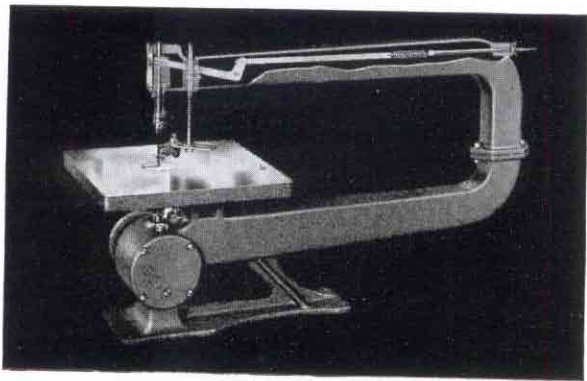
In construction, capacity and accuracy the Duro 24 inch Scroll Saw is outstanding. It is a real production machine capable of continuous heavy duty service. Thousands in actual service testify to the efficiency and satisfactory performance of this saw.

One of the outstanding characteristics of this saw is the virtual lack of vibration. Duro engineers have accomplished this smooth quiet performance by the design and construction of an extra heavy frame, by the use of a carefully balanced mechanism running on New Departure Sealed Ball Bearings and by a new application of an adjustable spring tension housed in the upper arm.

The lower and upper arms of the frame are hollow box castings with reinforced webs for added strength. The main housing is an integral part of the bottom half of the lower frame, both standing on a strong well balanced base. Upper arm may be removed for saber saw work. Frame, housing, base and table are all seasoned, high quality gray iron. This strong and solid construction is one of the reasons for smooth accurate operation of the machine.

The operating mechanism is accurately machined and balanced with the crankshaft mounted on New Departure Ball Bearings. The entire driving mechanism is enclosed in a dust-proof case and operates in a constant bath of oil. A set screw in the side of the crankcase is removable for filling with oil to the proper level and on top of the crankcase is located the breather cap. Operating from the upper spindle is an efficient air pump for clear vision.

The upper chuck spindle runs on two self-lubricating bronze bearings keeping the blade absolutely vertical. In the upper assembly the exclusive Duro spring tension mechanism maintains constant blade tension at all positions of the stroke. Illustration and detailed description of the tension mechanism is given below.



The heavy cast iron table is 12 inches by 12 inches with reinforcing ribs for added strength and to prevent warping. The table is mounted on a heavy double trunnion and tilts 45° in one direction, 30° in other direction. Pointer indicates degree of tilt. A quick acting lever locks the table in the desired position. Table has aluminum insert to protect blade.

The chucks have hardened steel jaws. Chucks may be adjusted to cut at right angles for use with extra long stock. File chuck included for use with files on page 50. Adjustable roller guide with adjustable spring hold down foot. Lower guide adjusts close to table for maximum support for saber saw work. An adjustable electric light that attaches to upper arm may be added if desired.

SPECIFICATIONS

Capacity.....	24"	Up to 1½" under foot.
Overall height.....	19½"	Length.....33" Width.....12"
Table size.....	12" x 12"	Tilts.....45° and 30°
Blades.....	5" Plain End.	
Recommended motor for average use.....	¼ HP	
Size motor pulley for 1750 RPM motor.....	3"	
Mount on No. 300585 Steel Stand.....	Requires 50" V Belt	

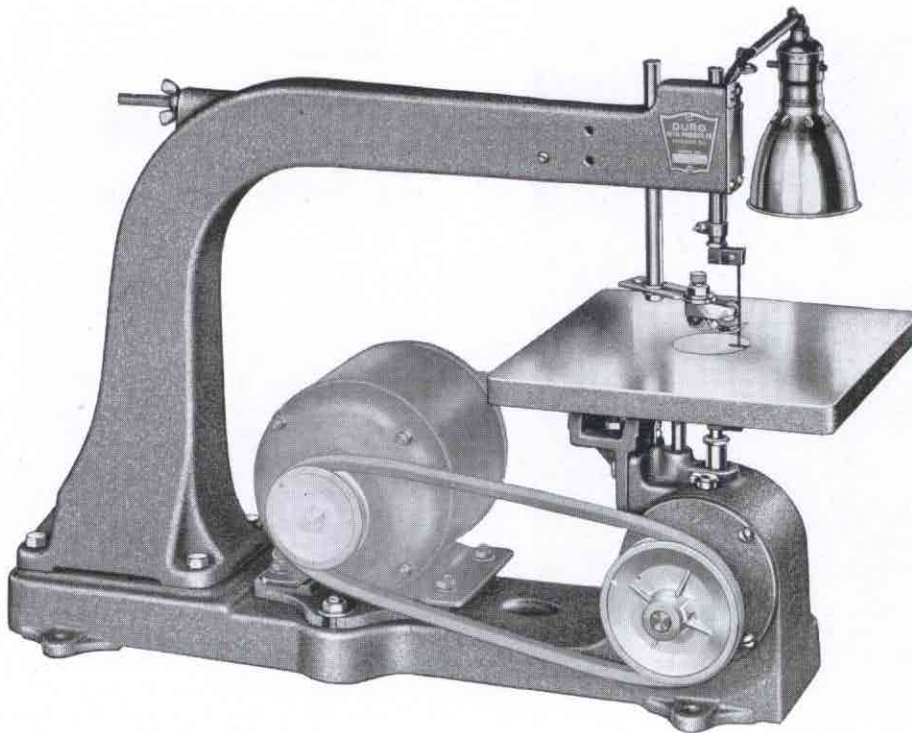
ORDERING INFORMATION

3005—Scroll Saw less Adjustable Light.....	Shipping Weight 85 lbs.
300585—Steel Stand for 3005.....	Shipping Weight 35 lbs.
301586—Remote Control Switch.....	Shipping Weight 1 lb.
301588—Rubber Feet for Stand. Per Set.....	Shipping Weight 1 lb.
3765—Adjustable Electric Light.....	Shipping Weight 1 lb.
Extra Jig Saw Blades shown on Page 50.	

ADJUSTABLE SPRING TENSION

The illustration shows the exclusive Duro device for regulating tension according to size of blade and type of work and also for maintaining even tension on the saw blade at all positions of the stroke. Setting the tension on a jig saw blade according to size and width is as important as setting the tension on a band saw blade. The heavier the blade the greater the tension required. Even tension at all positions of the stroke prevents whip or buckling which produces crystallization that reduces life of blade. Correct tension, evenly applied produces a quieter, smoother-running saw.

This mechanism is simple and efficient. By turning wing nut adjustment at rear of upper arm, the tension is increased or decreased. The cantilever link moves the spring only one quarter the distance required on other types of saws thereby producing an even tension at all positions of the stroke and also assuring longer spring life.



DURO HEAVY DUTY 16-INCH SCROLL SAW



The Duro 16 inch Scroll Saw is a heavy duty machine, built for continuous use, that cuts accurately and smoothly. It meets the requirements of the artisan needing a big machine for exacting work and yet one that can be operated in a limited amount of space.

The heavy cast iron frame of this saw is rigid and solid maintaining accurate alignment of the parts and preventing vibration. The crank case is an integral part of the base casting which also carries the adjustable motor mounting. The hollow box type upper arm is reinforced with inside ribbing giving it increased strength and rigidity. This sturdy construction is an important factor in the vibrationless performance of this machine.

The operating mechanism of a scroll saw is of vital importance. Both the upper and lower mechanism of the Duro saw are of exceptionally fine design and construction.

The driving mechanism is made of machined and ground parts that have been held to close limits in manufacture. The crank shaft operates on New Departure Sealed Ball Bearings. The entire mechanism is balanced to prevent vibration and operates in a bath of oil within a closed crank case. The result is not only a quiet, smooth running mechanism but also one that will run indefinitely with a minimum of wear.

The upper spring tension mechanism is similar to that described on Page 32 for the 24 inch scroll saw, furnishing even blade tension at all positions of the stroke and preventing whip. This exclusive feature not only is necessary to insure smooth operation but also is important in increasing the life of the blade. Adjustment of the spring tension is readily made by means of a wing nut at the back on the upper arm. The correct tension for various kinds of work and various sizes of blades is quickly obtained. An efficient air pump

operating from the upper spindle gives clear vision by blowing sawdust from the cutting line.

The heavy cast iron table 10 inches by 10 inches is cross-ribbed on the underside for added strength and to prevent warping. The top of the table is machined and ground to a smooth finish and is fitted with a removable aluminum insert to prevent blade damage. The table is mounted on a large double trunnion with double machined ways. The trunnion mounting is described in detail below. Table tilts 45° in one direction, 30° in other direction. Pointer records the degree of tilt. The table is locked in desired position by a quick acting hand lever. The upper and lower chucks are the same as used on the 30 inch Scroll Saw with hardened steel jaws that firmly grip all types of plain end blades. Standard five inch blades are used in this machine. For extra long work the chucks may be adjusted to a sawing position at right angles to the usual position. The upper arm may be removed for saber saw work giving unlimited capacity. File chuck included for use with files on page 50.

Note the spring hold down on the adjustable foot and roller blade guide. The blade guide below the table is set close to the underside of the table for maximum support — valuable in saber saw work with the upper arm removed. An adjustable electric light can be obtained for added utility and convenience. For description see Page 51.

The overall dimensions of the saw are length 27½", height 18¾", and width 10½". Saw is equipped with 4" spindle pulley. Use a 3 inch motor pulley and 33 inch V Belt on 1750 RPM ¼ HP motor. Extra blades shown on Page 50.

3003—Heavy Duty 16 inch Scroll Saw, less light, motor, motor pulley and belt. Shipping Weight 67 lbs.

AIR PUMP

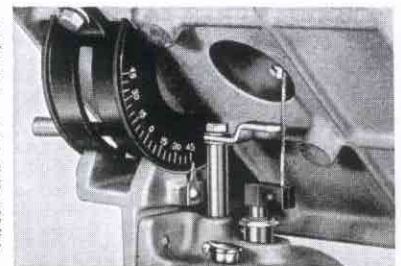


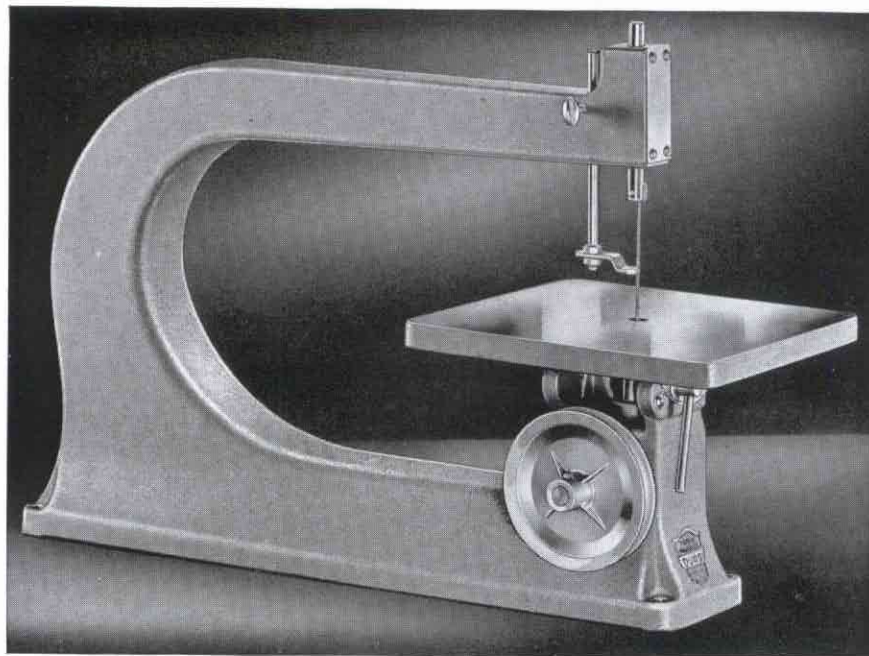
The convenience of having the saw dust cleared from the cutting line when sawing to a pattern will be appreciated by anyone who has had occasion to do accurate Scroll Saw work. The Duro air pump housing is fastened to the upper arm of the Saw the piston being operated by the motion of the upper spindle. The positive action of the piston assures an adequate and reliable supply of air. The stream of air is forced directly at the cutting line thereby preventing saw dust from accumulating.

TRUNNION MOUNTING

Note on the illustration at the right the heavy double trunnion with double machined ways. Table tilts 45° in one direction, 30° in other direction. Pointer indicates degree of tilt. The table is locked in position by a cam lever. Note the heavy crossribs under the table for added strength and to prevent warping.

The lower blade guide adjusts both vertically and horizontally so that various width blades may be supported close to the underside of the table — invaluable for saber saw work. The hardened and tempered steel chuck with adjustable jaws will hold the finest fret saw blades as well as the heaviest saber blades. Socket head set screw tightens jaws to hold blades firmly and may be tightened without fear of breaking due to the rugged construction. One quarter turn of the locking nut releases the chuck to turn it at right angles by removing thumb screw and turning chuck jaws.





DURO 15-INCH JIG SAW

A Jig Saw in your home workshop is inexpensive to buy and easy to operate. For father or for son, for pleasure or for profit, the Jig Saw will yield large returns on its modest cost. Which members of your family would most enjoy using it? Would they wish to make bird houses, lawn ornaments, what-nots to sell, or would they prefer to make smoking sets, book-ends and magazine racks for the home? For wholesome, instructive and profitable fun, start your home workshop now, with a Jig Saw.

The Duro 15 inch Jig Saw is built to meet the demand for a large capacity saw at a low price. It is built to the same high standards as our Production Scroll Saws, with quality and workmanship that has not previously been available in a moderately priced Jig Saw. Incorporated are features such as a one piece gray iron frame and base, 15" capacity from blade to frame with up to 2" under the foot, tilting cast iron table, upper torsion and lower compression springs, and totally enclosed driving mechanism operating in a bath of oil. The design of the one piece frame and base provides strength, the construction of the working parts provides smooth and quiet operation.

The hollow box-type frame and base are cast in one piece to insure rigidity. It is made of high quality gray iron and carefully machined to accurate limits. Housing for the working parts is an integral part of the base. Dust proof cover keeps foreign matter from entering the housing to cause damage to the working parts.

The tension on the upper spindle is controlled by a torsion type spring enclosed in the head of the frame and on the lower spindle by a compression type spring. The two springs working in conjunction with each other provide the correct tension on the blade at all positions of the stroke, resulting in smooth, vibrationless cutting and reducing blade breakage to a minimum.

Steel spindles are ground and polished and are actuated by a hardened and ground eccentric cam on the drive shaft. An improved cross head is mounted on lower spindle and is held against cam by the lower spring. Cam operating the cross head in conjunction with the tension spring produces a positive balanced driving action that delivers maximum cutting capacity at each stroke.

Table is made of cast iron and is machine ground to insure a true surface. Its size, 9"x9", gives adequate working surface when cutting up to capacity of saw. Heavy steel trunnions support the table and allow it to be tilted accurately to 45°. The trunnion is graduated and a pointer indicates the degree of tilt.

Hardened steel blocks are used to hold the blade firmly to the shafts. They are easily adjusted with hollow head set screws. Saw takes any 5 inch plain end blade. Guide foot which also acts as hold down is heat treated then cadmium plated to prevent rust.

The overall length is 22 $\frac{3}{4}$ " and the overall height 15 $\frac{1}{2}$ ". Standard equipment includes 4" spindle pulley, saw blade and adjusting wrench for blade holders. Use 2 inch motor pulley on 1750 R.P.M. $\frac{1}{4}$ HP motor. For extra saw blades see Page 50.

B3002—Jig Saw 15".....Shipping Weight 37 lbs.

DURO NEW SUPER-VALUE 12-Inch JIG SAW

- 12" capacity up to 2" thick
- Heavier streamline frame
- Cast iron tilting table 8" x 8"
- Balanced eccentric mechanism
- Even blade tension throughout stroke
- Saw dust blower included

A NEW low priced Jig Saw with extra quality features heretofore unequalled in this price range. It is made from quality materials. It is built to improved design standards. It is smooth, quiet and accurate. It is sturdy. Only Duro's vast manufacturing facilities could produce so much saw for so little money.

It has an extra heavy streamlined frame of gray iron heavily ribbed and an 8 x 8" ground cast iron table which tilts to 45°. Balanced lower mechanism enclosed in dust free oil bath has eccentric cam operating on an improved cross head. Upper torsion and lower compression springs give even blade tension throughout stroke. Shafts are ground and polished steel with heat treated blade clamps. Efficient saw dust blower gives clear vision. Equipped with blade, 4" spindle pulley and hollow head set screw wrench for blade clamp. Use 2" motor pulley on 1750 R.P.M. $\frac{1}{4}$ HP motor. Extra 5" blades shown on Page 50.

D3000—Super-Value 12 inch Jig Saw.....Shipping Weight 25 lbs.

DURO PORTABLE HEAVY DUTY FLEXIBLE SHAFT

An improved design Flexible Shaft unit with a wide range of usefulness. Ideal for the mechanic or shop requiring a compact and portable outfit. Sturdy and well balanced, it is unusually flexible. The motor mounting swings in the yoke, the yoke revolves on the solid steel post on ball bearings and the entire unit is mounted on ball bearing casters.

Note the extra heavy construction of the tripod stand. The sturdy cast iron legs mounted on ball bearing casters have a spread of 21 inches, providing a stable unit that is not top heavy. A large 14½ inch steel tool pan is provided. The lower end of the solid steel post 1½ inches in diameter, sets in a cast iron bracket with an adjustment to permit raising or lowering the post. The cast iron yoke is mounted at the top of the shaft on ball bearings to permit revolving the head easily and quickly to any desired position. The cast iron motor mounting also swings within the yoke for greater flexibility.

The four step motor pulley drives through the V belt to a four step pulley on the Jack Shaft, which gives a speed range of from 690 to 4,000 R.P.M. The Jack Shaft is adjustable vertically to permit obtaining the proper belt tension. Above the Jack Shaft is a convenient, specially designed, bracket in which the end of the Flexible Shaft may be set with any attachment fastened to it, while the shaft and attachment are still revolving. The overall height of the unit is 44 inches.

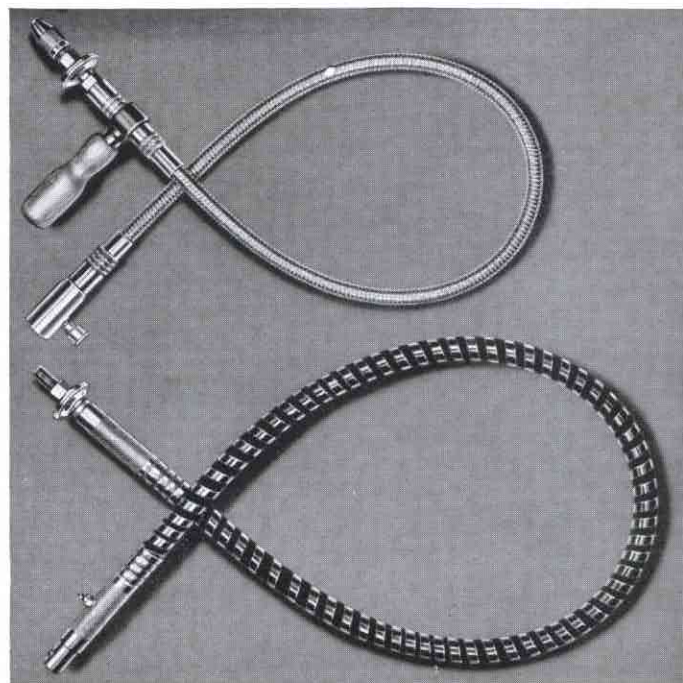
The Flexible Shaft Outfit has many uses such as polishing, grinding, drilling, buffing, carbon removing, body work, etc. It is indispensable to any garage or workshop. Spindle on end of shaft is ½ inch 24 thread to fit ¼" to ½" chucks on page 54. See page 51 for scratch brushes, buffing, grinding and sanding accessories.

ORDERING INFORMATION

- 3074—Tripod Unit as shown including pulleys and belt but less Motor and Flexible Shaft.....Shipping Weight 43 lbs.
3075—Complete unit including ½ H.P. Ball Bearing Motor No. 3710 DEB and No. 3073 Heavy Duty Flexible Shaft.....Shipping Weight 85 lbs.



DURO BALL BEARING FLEXIBLE SHAFT



STANDARD FLEXIBLE SHAFT

A new improved ball bearing motor coupling with grease cup gives this convenient tool added strength and utility. This carefully constructed shaft is used for grinding, drilling, sanding, polishing, buffing and light general utility work around the shop. It has a specially wound music wire inner core ⅝" in diameter. Two rows of ball bearings at each end of shaft. All engaging parts are heat treated. Heavy cadmium plated flexible outer casing. Spindle is ⅝"—24 thread. Chuck adaptor is ⅝"—24 thread fitting standard accessories shown on page 51. Equipped with motor coupling, chuck adaptor, 3 jaw ¼ inch chuck, flanges for wheel and auxiliary handle. Length overall 53 inches. A 43 inch extension for this shaft is listed below.

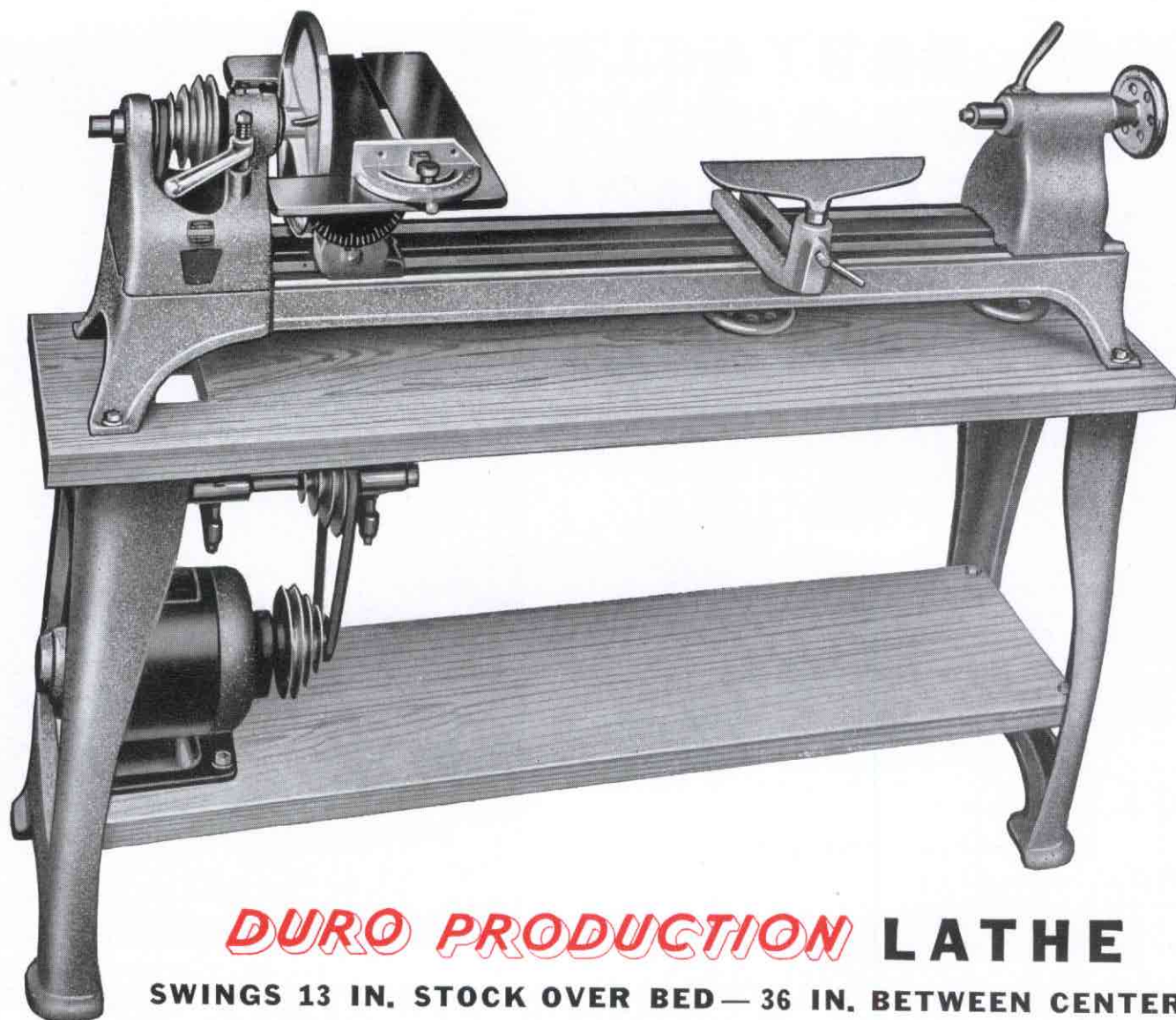
HEAVY DUTY FLEXIBLE SHAFT

This unit is designed for heavier duty work than No. 3071 Flexible Shaft above and will be found ideal for garage, woodworking shops, machine shops and paint shops.

The outer casing is a specially flexible and durable combination of steel and tough rubber. The heavy ⅝ inch core is made of specially wound music wire and rides on two rows of enclosed ball bearings at each end of the shaft. The inner walls of the casing have a special lining which resists friction and wear and gives longer life to the core. Equipped with motor coupling for ⅝" shaft motor at one end and heavy ⅝ inch 24 thread spindle at the other, wheel flanges and nut. Fits ¼ or ½ inch chucks and other standard accessories, see Page 51. If used with 3061 Sander on Page 42, order No. 307321 Adaptor listed below. Overall length 5 ft. A five foot extension for this shaft is available as listed below.

ORDERING INFORMATION

- 3071—Standard Flexible Shaft.....Shipping Weight 6 lbs.
307133—Standard Flexible Shaft Extension. Length 43 inches. Increases length of No. 3071 to 95 inches overall.....Shipping Weight 4 lbs.
3073—Heavy Duty Flexible Shaft.....Shipping Weight 6 lbs.
307333—Heavy Duty Flexible Shaft Extension for No. 3073 Flexible Shaft. Length overall 5 ft.....Shipping Weight 6 lbs.
307321—Adaptor for using No. 3073 Heavy Duty Flexible Shaft with No. 3061 Sander shown on page 42.....Shipping Weight ¼ lb.
3264—6 x ⅝" Flexible Sanding Disc to fit No. 3073.....Shipping Weight 2 lbs.
3263—Sandpaper for No. 3264, fine, medium or coarse. each.Ship. Wt. 1 oz.



DURO PRODUCTION LATHE

SWINGS 13 IN. STOCK OVER BED — 36 IN. BETWEEN CENTERS

The Duro Production Lathe is not only a large, accurate and durable machine. It also has basic features of construction, available only in the Duro Lathe, that give greater convenience and greater utility — such as the clutch in head; V way bed; hand wheel adjustment of tailstock and tool rest, and a more complete line of attachments and accessories. The Duro Lathe offers you all that you can get in an ordinary lathe PLUS many extra values.

The Bed is an extra heavy, solid and rigid foundation for the entire machine. Made of high quality gray iron with heavy reinforcing ribs. Legs $3\frac{1}{2}$ inches high, give ample clearance under bed. "V" and Flat ways are machined the entire length of the bed.

"V" and flat way construction of bed, head and tailstock eliminates vibration by providing a wedging action when head and tailstock are clamped to the bed. Accurately machined "V" ways assure positive alignment of the tailstock with the head regardless of its position along the bed. This expensive construction cannot be obtained on other woodworking lathes in this price field. This feature also makes it possible to use the Duro Production Lathe for metal cutting with assurance that the slide rest will be held in the same relative position to the spindles through the length of the bed. Only "V" way construction can guarantee this accuracy.

The headstock is designed to withstand the hardest use. Made of high grade gray iron with "V" and flat ways machined to fit the bed. Cored to drive from below or in back. New Departure Sealed Ball Bearings mounted in seats machined in the casting have high radial and end thrust capacity. They carry the hollow spindle which has $\frac{3}{8}$ " opening and No. 2 Morse Taper. The four step index pulley is

mounted BETWEEN THE BEARINGS to afford proper distribution of radial and thrust load. No overhang on outside of headstock to cause cramping and strain on the bearings.

The clutch built into the headstock adds dollars to the value of the lathe both by increasing the efficiency of the lathe and by increasing the life of the motor. Starting strain on motor is relieved by allowing motor to gain speed before engaging clutch and applying the load. Use of the clutch also saves time and trouble in inspecting or changing work by eliminating the necessity to stop and start motor repeatedly.

The tailstock is also designed to meet production requirements. A solid, one piece casting to provide rigidity when clamped to the bed. Accurately machined with "V" and Flat ways. Large quill with No. 2 Morse Taper operated by handwheel, ejects its center when backed to the limit. Half turn of handle locks quill in any position.

Hand wheels for increased capacity and convenience. The use of hand wheels give 1 to 2 inches more capacity over the tool rest base than other devices using locking methods above the base. Their convenience is another important advantage — easy to lock or unlock — eliminates necessity of wrenches. Used on both tool rest and tailstock for greater convenience.

Pillar blocks can be added to increase the swing over the bed to 21 inches. Only "V" way construction makes this possible. Precision machining and the wedging action of the "V" ways assures perfect alignment — impossible with ordinary flat ways.

Standard Equipment includes 65" V Belt, Spur and Cup Center and 12 inch tool rest.

DURO

SANDING DISC WITH ADJUSTABLE TABLE

Convert your Lathe into an efficient Disc Sander. Quickly attached to Lathe bed and held in place by tool rest bolt and hand wheel.

The large 10"x16" table and base are made of heavy gray iron. Table rides on two graduated trunnions and is adjustable to tilt 45° in one direction and 15° in other. Table is ground to a smooth surface and has milled slot for using a mitre gauge. 10" cast aluminum disc has machined face and is balanced to insure true running.

JACK SHAFT ATTACHMENT

Certain types of work, such as turning wood of extra large diameter, or metal cutting, require slower speeds than can be obtained with a single set of pulleys. An easily attached Jack Shaft Assembly provides the necessary speeds (ranging from 325 to 9000 R.P.M.) to meet every requirement. The self-aligning hangers used have large self-lubricating bearings. Vertical adjustment of 1" is provided to obtain proper belt tension. Includes necessary belts, pulleys, shafting, hangers and bolts for attaching. Jack Shaft assemblies available for either 305685 or 305675 Stand.

STANDS FOR MOUNTING LATHE

To increase efficiency and convenience mount your lathe on a stand. Saves time and trouble; saves power. Stand can be fastened to floor or moved around to different locations. No. 305675 Stand (illustrated on opposite page) has heavy end castings with finished wood top and shelf. Top measures 19"x11 1/2"x57". No. 305685 Stand is all steel with construction similar to steel stands for other tools illustrated in this catalog. Both stands are strong and sturdy. Use 65" V Belt furnished with lathe to connect motor on either stand.

ORDERING INFORMATION

3056 — Lathe only with 65" V-belt; spur and cup centers and 12" tool rest.....Shipping Weight 122 lbs.
 305617 — Motor pulley to match lathe pulley. State bore. Ship. Wt. 2 lbs.
 305635 — Pillar blocks with tool rest holder and bolts...Ship. Wt. 24 lbs.
 305685 — Steel Stand for lathe.....Shipping Weight 50 lbs.
 305675 — Stand. Cast iron ends, wood top and shelf...Ship. Wt. 123 lbs.
 305676 — Stand. Cast iron ends only.....Shipping Weight 75 lbs.
 301586 — Remote Control Switch. For either Stand. Shipping Weight 1 lb.
 301588 — Rubber Feet. For 305685 Steel Stand. Set of 4...Ship. Wt. 1 lb.
 305680 — Jack Shaft Assembly for 305685 Stand. Less motor pulley, with one 28" and one 46" V-belt, two 5" four step pulleys, 3/4" shafting, two 3122 hangers and bolts for attachment.....Shipping Weight 19 lbs.
 305682 — Jack Shaft Assembly for 305675 Stand. Same as 305680 above, but with 28" and 48" V-belts.....Shipping Weight 19 lbs.
 305667 — Sanding Attachment complete less mitre gauge. Ship. Wt. 26 lbs.
 301221 — Mitre Gauge to fit table of sanding attachment. Ship. Wt. 3 lbs.
 3265 — 10" Sandpaper for 305667 — Fine, med. coarse, ea. Ship. Wt. 3 ozs.
 See Pages 52 and 53 for other Lathe accessories.

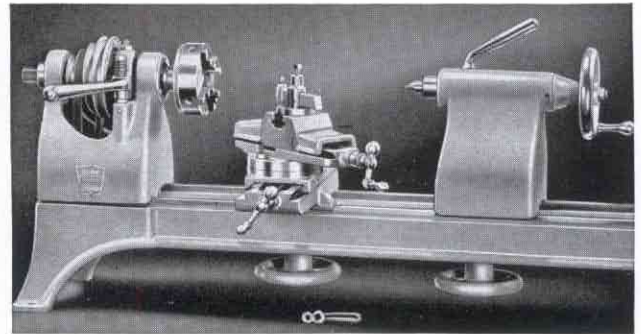
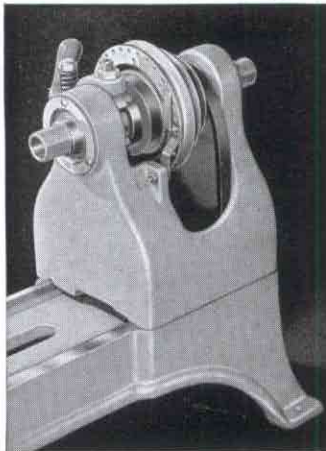
SPECIFICATIONS

Capacity.....Swings 13" stock over the bed. 36" between centers.
 Capacity with Pillar Blocks.....Swings 21" over the bed.
 Spindle Threaded.....1"-16 Outboard end reverse threaded.....1"-16
 Head and Tailstock Spindles fitted for.....No. 2 Morse Taper.
 Size of hole in Headstock Spindle.....1/2"
 Overall Length.....54 1/2" Overall Width.....10" Overall Height.....14"
 Speed Range.....740-4000 R.P.M. Speed Range with Jack Shaft, 16 Speeds.....325-9000.
 Use 305617 Motor Pulley on 1750 R.P.M. motor. Motor size for average work.....1/2 H.P.

CLUTCH CONTROL

The clutch control is a valuable feature that is not obtainable on any other wood-working lathe. It adds to life of the motor by avoiding the heavy starting load—the motor is first permitted to gain speed, then the clutch is engaged. It also eliminates repeatedly turning the motor on and off to inspect or change work with a consequent saving of time and trouble. Quick acting; a three-quarter inch movement of the throw-out lever engages or disengages the clutch.

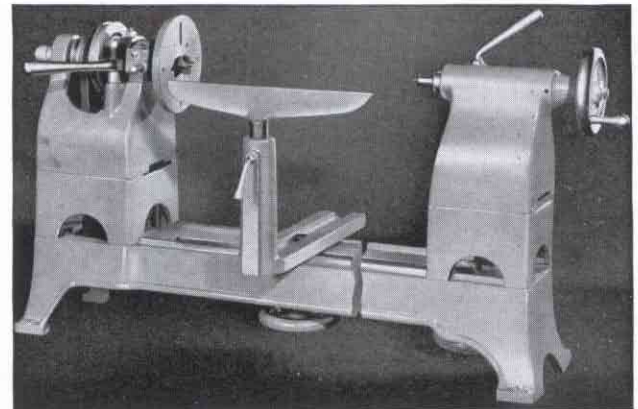
Carefully designed and precision machined for positive action. The clutch facing is of moulded composition having extraordinary wear-resisting qualities. Ground to within 2/10,000 of an inch, facing and cone engage perfectly and prevent any possibility of slipping. The clutch is keyed to the shaft. The clutch lever is attached to the clutch with heavy bronze segments and the pulley floats on self-lubricating bearings allowing the work to stop turning the instant the clutch is disengaged.



METAL CUTTING

Added utility is obtained from the Duro Production Lathe by its ability to turn out accurate and reliable metal cutting work. The "V" way on the bed is parallel to a line through the center of the head and tailstock. A "V" way machined in the Compound Slide Rest at right angles to the transverse feed gives positive assurance that the cutting tool will remain in the same relative position to the center line regardless of its position along the bed. This construction—standard on large engine and turret lathes—is the only method known to guarantee accuracy. Extra heavy construction throughout this Lathe further increases its adaptability for efficient metal cutting. New Departure Ball Bearings having high radial and end thrust capacity are mounted in the headstock casting to hold the spindle in perfect alignment. The hollow spindle has 1/2 inch opening for long pieces.

As metal cutting requires slower speed than wood turning, it is necessary to use the Jack Shaft Attachment described at left. Compound slide rest, chucks and other metal cutting attachments and accessories are illustrated and described on Page 53.



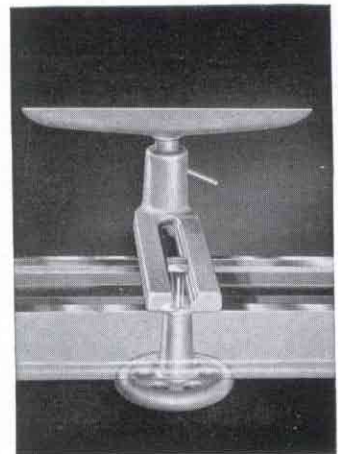
PILLAR BLOCKS FOR LARGE WORK

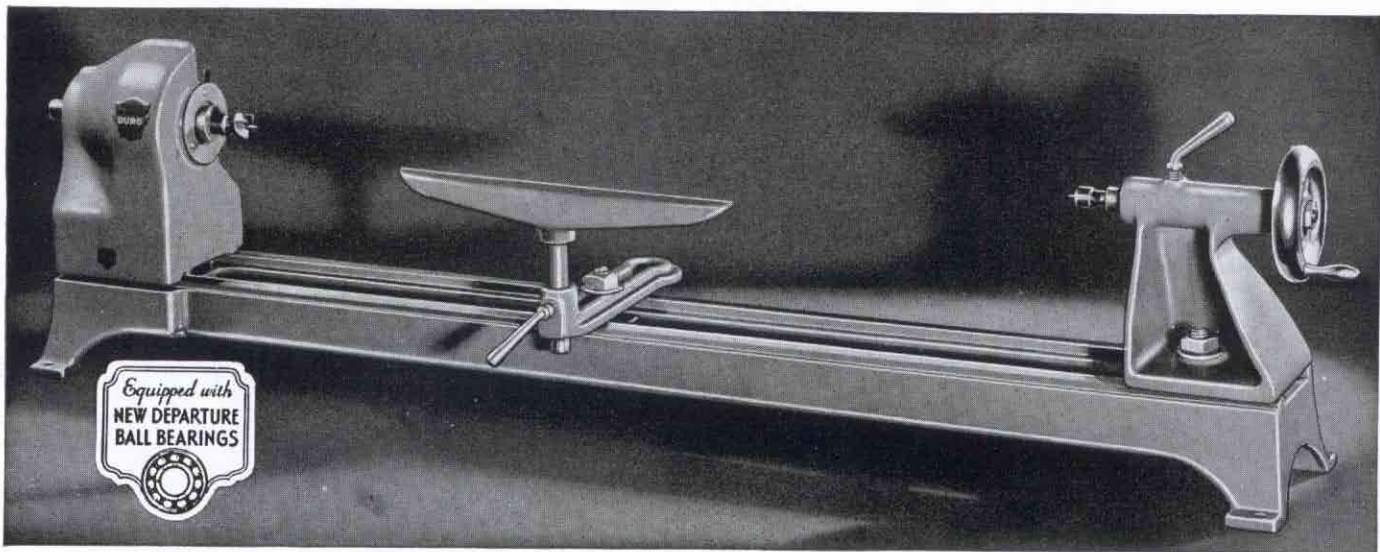
These Pillar Blocks, No. 305635, are made of high grade gray iron with "V" and Flat ways machined to match the bed, head and tailstock which assures perfect alignment of the spindles at all times. It increases the capacity of the No. 3056 Lathe to permit swinging pieces 21 inches in diameter over the bed and is particularly adaptable to metal spinning and turning large pieces. The Production Lathe is designed and built with the strength and rigidity to handle extra large work without vibration. The large New Departure Sealed Ball Bearings, having high radial and end thrust capacity absorb the load encountered in these operations. Proper support of the head stock spindle assures true running. A high tool rest holder and the necessary bolts are included with the pillar blocks.

HAND WHEELS

The phantom view at the right shows the hand wheel and the method of holding tool rest to the bed. Increased capacity over the tool rest is obtainable due to the fact that the bolt head travels in a slot in the tool rest base with the top of the bolt head flush with top of the slot. There is no washer and nut above the tool rest base to decrease the capacity as in other types of construction. This increased capacity, through better design, means work can be done that otherwise could only be accomplished on lathes with 1 or 2 inches greater capacity.

Convenience is the other great advantage. Handwheels are used on both the tool rest and tail stock. No wrenches to find and nuts to adjust. Simply turn hand wheel to the left to loosen and move tool rest or tail stock along the bed. Turn handwheel to the right to tighten.





DURO HEAVY DUTY 10x31 INCH LATHE

The Duro Heavy Duty Lathe is designed and built to include many outstanding features and plus values. Every detail of construction is of the best to give top performance and extra long service. Built into this lathe are features such as large New Departure Sealed Ball Bearings; V and flat ways milled in Bed, Head and Tailstock; Guarded Head; Hollow Spindle; No. 1 Morse Taper Fittings; self ejecting Quill; extra capacity. The quality, capacity and price make it an outstanding value.

The bed is accurately milled with V and flat ways which are more expensive to manufacture but far superior to ordinary flat ways. The V way on the bed and corresponding V in the headstock and tailstock wedge when clamped together, drawing parts solidly into accurate alignment. Legs are an integral part of the bed with clearance for easy removal of chips. The bed extension illustrated below gives additional length capacity if required.

The streamlined headstock is one of the finest and safest ever built. Guard protects the operator from the front of the lathe yet leaves plenty of room to change belt speeds. Lathe may be driven from back or from below either from a line shaft, a jack shaft or direct from a motor. The four step pulley is mounted between bearings for maximum support. New Departure Ball Bearings take end thrust and self-

lubricating bronze bearings carry the radial load. Note the indexing device on the headstock described below. Hollow spindle with $\frac{3}{8}$ " hole takes No. 1 Morse Taper and is threaded $\frac{3}{4}$ "-16.

The tailstock is equipped with oversize quill to take No. 1 Morse Taper fittings. Operated by large hand wheel, the quill ejects the fittings when backed to the limit.

With 10" swing and 31" between centers, ample capacity is available. The sturdy and accurate construction makes it possible to do metal cutting on this lathe also. Compound slide rest, chucks and other metal cutting attachments are listed on Page 53.

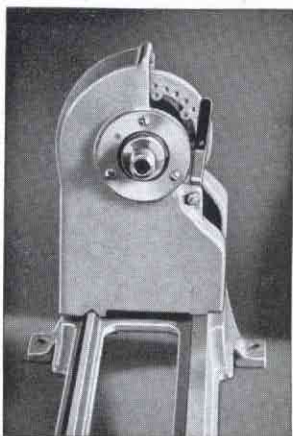
Lathe comes equipped with 12" tool rest and tool rest holder, No. 1 Morse Taper spur and cup centers. Use four-step motor pulley No. 305331 on $\frac{1}{2}$ H.P. 1750 R.P.M. motor for ordinary work. Sanding disc illustrated below may be added for extra utility. Mount on B-305385 steel stand using 48" V Belt. Other accessories on page 52.

B-3053 — Heavy Duty Lathe. 10"x31".....Shipping Weight 55 lbs.

B-305385 — Steel Stand for B-3053 and C-3053 Lathe

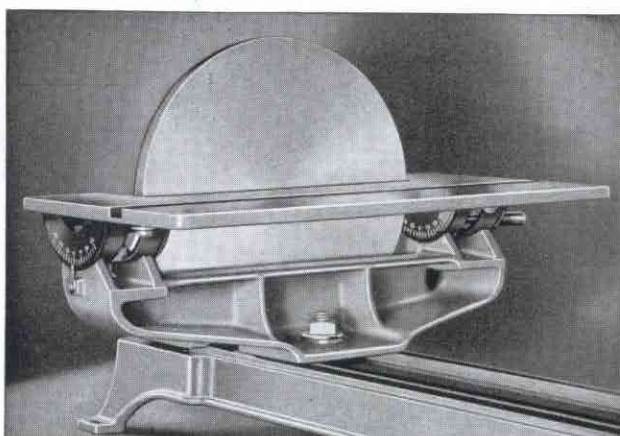
.....Shipping Weight 47 lbs.

See Page 51 for Remote Control Switch and Rubber Feet for Stand.



INDEXING HEADSTOCK

This new headstock has a balanced four-step pulley provided with one row of thirty holes and one row of eight holes, accurately spaced for indexing, making it invaluable for fluting, or laying out work. Note V and Flat ways.



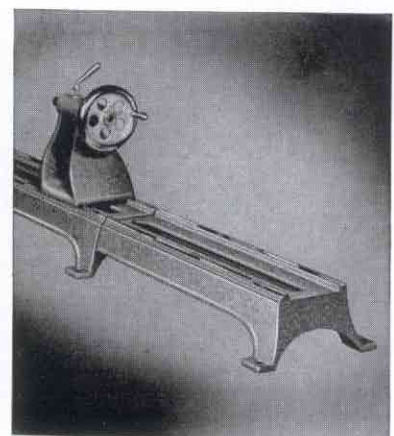
SANDING DISC WITH ADJUSTABLE TABLE

Converts your B-3053 or C-3053 Lathe into an efficient disc sander. The 10" disc is threaded for attaching to spindle providing four speeds. Gray iron table and frame attached to bed by tool rest clamp. Ground table, 10"x16", with slot for mitre gauge rides on double trunnions and tilts 45° up or down.

305367 — Sanding attachment.....Shipping Weight 23 lbs.

301221 — Mitre Gauge for 305367.....Shipping Weight 2 lbs.

3265 — Sandpaper, 10", for 305367. Fine, Medium or Coarse. Each.



18 IN. BED EXTENSION

To increase the capacity between centers on B-3053 and C-3053 lathes, add this bed extension. The extension bolts to bed of lathe increasing length of bed 18" and making it possible to turn work up to 48" long. Finished in corduroy gray baked enamel to match lathe.

305360 — Bed Extension Ship. Wt. 13 lbs



DURO SUPER-VALUE 10x31 INCH LATHE

Built to the same standards as all other Duro Tools this Super Value Lathe is comparable to competitive lathes selling up to \$20. Read the following specifications and you will know it is the greatest value ever offered.

Capacity — Swings 10 inch material over the bed with a full 31 inches between centers. Never has a lathe of this capacity been offered at this low price.

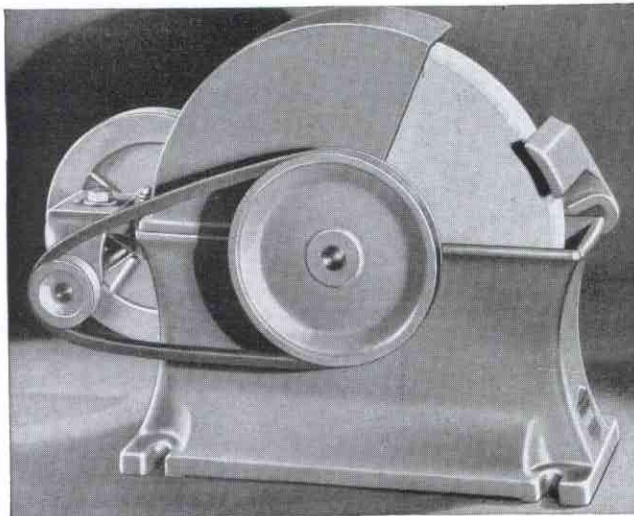
Construction — Machining of all parts to the same close tolerances that make Duro tools outstanding in accuracy and dependability. Bed, head and tailstock are made of the same high grade gray iron as other Duro tools.

V and Flat ways machined in bed, head and tailstock insure perfect alignment. Bed casting, 44" long, is extra heavy and braced to give smoothness at all speeds. Ample clearance under bed for removal of chips. Bed extension shown on Page 38.

Indexing head-stock is equipped with a balanced 4-step pulley having one row of 30 holes and one row of 8 holes accurately spaced. Polished steel headstock spindle is $\frac{3}{4}$ " in diameter and is mounted solidly on large self-lubricating bronze bearings with ball bearing to take end thrust. The spindle has $\frac{3}{8}$ " hole with the front end machined to take tools with No. 1 Morse Taper — also has $\frac{3}{4}$ " — 16 threads to take standard accessories.

The tailstock is substantially built with machined steel quill, which is fitted for No. 1 Morse Tapers and ejects its center when backed to the limit. V and Flat ways machined in tailstock correspond to V and Flat way in bed and headstock assuring alignment at all positions along bed.

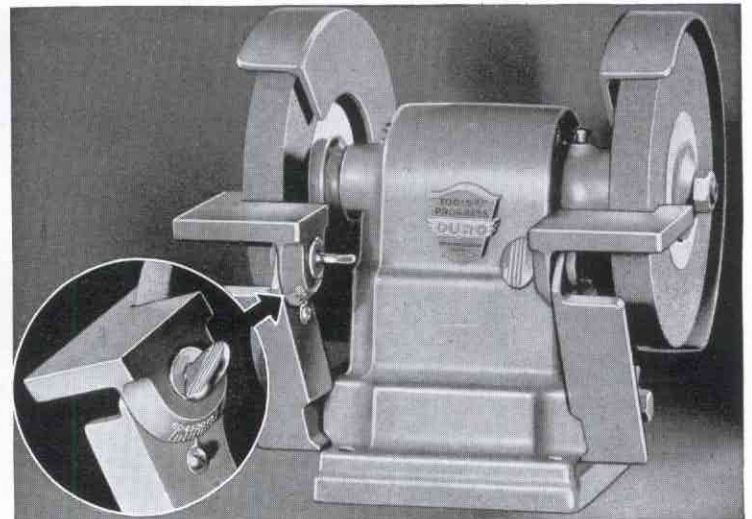
Standard equipment includes spur center, cup center, 12" tool rest and tool rest holder. For ordinary work use No. 305331 4-step pulley on $\frac{1}{2}$ H.P. 1750 R.P.M. motor. Use same steel stand equipment and sanding attachment as for B-3053 Lathe on Page 38. Lathe accessories shown on Page 52. C-3053 — Super-Value Lathe. Shipping Weight 48 lbs.



DURO WATER GRINDER

A specially heavy and well designed Water Grinder. The best means of sharpening all tempered tools. Wheel runs in water at slow speed — eliminates heating and drawing temper of tools.

One piece gray iron base with drain plug. Guard fully covers wheel to prevent splashing. Adjustable tool rest for holding tools at correct angle. Genuine Ohio stone, 10" diam. $1\frac{1}{2}$ " face. Spindle mounted on self-lubricating bronze bearings. Speed, 125 R.P.M. Use $1\frac{1}{2}$ " pulley on 1750 R.P.M. $\frac{1}{4}$ H.P. Motor. C-3043 — Water Grinder complete as pictured. Ship. Wt. 40lbs.



DURO BENCH GRINDER

Modern design, safety construction, heavy gray iron castings, heavier bearings and spindle make this Bench Grinder outstanding. The enclosed base acts as pulley guard. Can be driven from back or below bench. Adjustable tool rest graduated to give correct grinding angle. Heavy $\frac{3}{4}$ " steel shaft runs on self lubricating bronze bearings with oil cups. Arbor ends take $1\frac{1}{2}$ " bore wheels. Two $\frac{3}{4}$ "x6" diamond dressed wheels, one fine and one coarse. See Page 51 for extra wheels, scratch brushes, buffing cloths. Pulley 2" diam. takes flat or V belt. Use 3" pulley on $\frac{1}{4}$ H.P. 1750 R.P.M. motor.

3041 — Bench Grinder complete as illustrated. . . . Shipping Weight 17 lbs.

DURO PRODUCTION BELT SANDER

The 6 inch Vertical and Horizontal Sander — first developed in this field by Duro — is the most practical, most useful and the greatest value sander on the market today. Study the advantages in design. Check the many types of sanding operations on woods, on metals or on plastics that can be performed on this unit. Consider the low initial price and the fact that there are no extras to buy in order to have a complete sander capable of all types of work. You will agree that real value is built into this machine.

Every detail of construction of the Duro 6 inch Belt Sander was carefully considered by our designing engineers before it was adopted. Working models were built and tested under actual shop conditions. Endurance tests were run. All the many kinds of sanding work of which this machine is capable on wood, metal and plastics were repeatedly performed. Only the most satisfactory features and only the best construction were retained with a resulting machine that we unconditionally recommend in every detail.

Belt sanders are strongly recommended by authorities in woodworking as the most practical and best method of sanding. The Belt sander has a uniform cutting speed across the entire face of the belt which gives a smooth even cut. On disc sanders the speed varies across the width of the disc causing fast cutting near the edges with practically no cutting at the center. Also a disc sander instead of sanding smoothly with the grain, as on a belt sander, sands in circles that cross the grain leaving scored marks plainly visible in the finished work.

Not only has Duro used the preferred belt type construction but they also have developed the most versatile unit in the field today for use in either the horizontal or vertical position. The table with mitre gauge can be set square, tilted up to 45° in one direction, 5° in the other direction or may be removed. With these flexible adjustments long or short pieces may be sanded with the grain, butt sanding accomplished, straight and compound angles sanded and curved pieces can be worked over the rubber tired drum. Also the side of the belt without table support is used for irregular shaped work. This unit not only does all that any belt or disc sander in the field will do and does it better but combines the versatility of other machines into a single unit.

Heavy durable construction combined with precision manufacture makes the Duro 6 inch Belt Sander a true production machine. High grade gray iron castings are used with substantial ribbing to give rigidity and to prevent vibration. It has readily accessible adjustments. Self lubricating bronze bearings are used in this instance in preference to ball bearings. The drums are rubber tired to give added belt life and to permit using drums for sanding irregular work. And most important of all the design and construction of this machine has been tested in actual production work in thousands of shops and proved to be practical, versatile and durable.

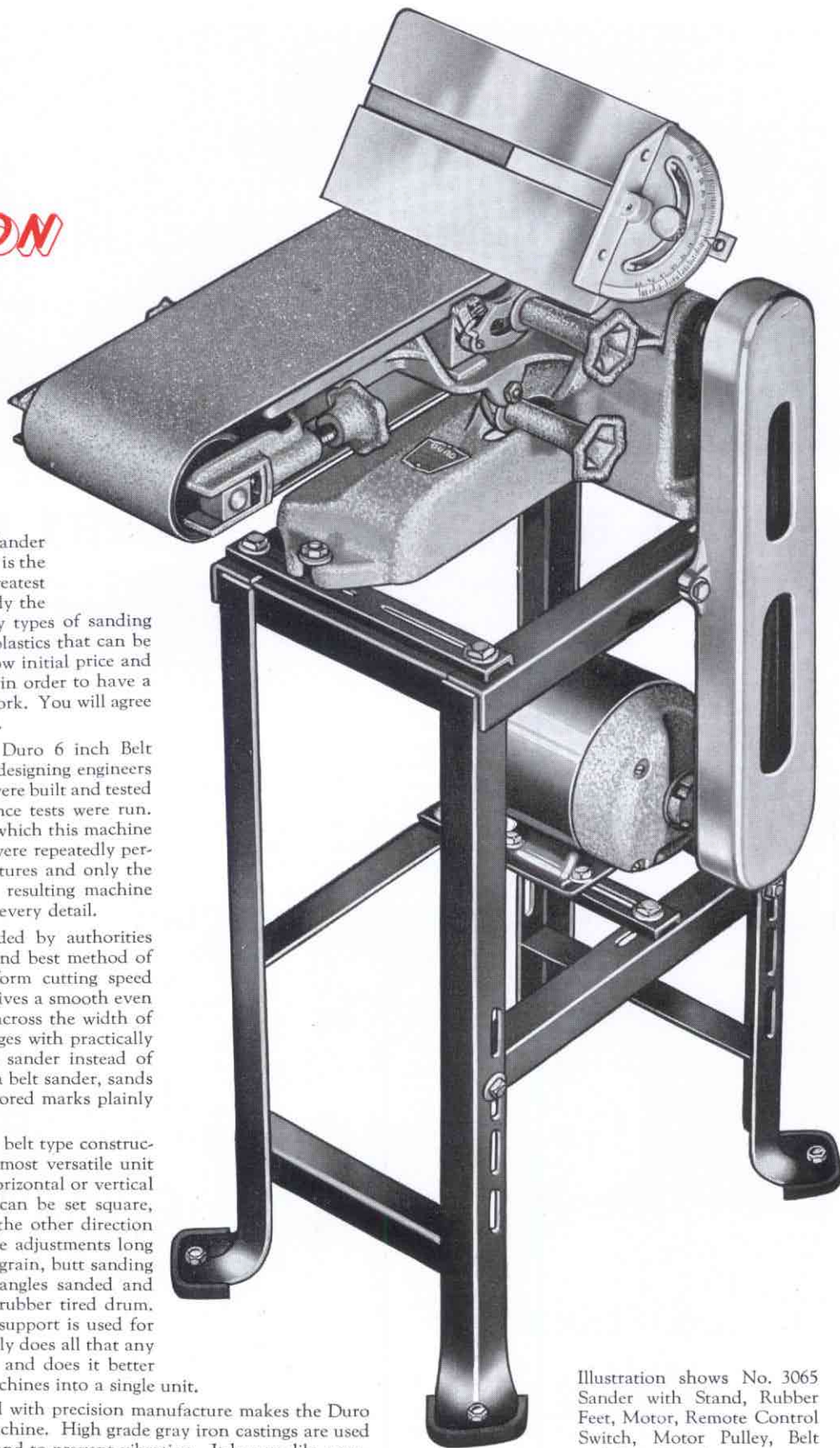


Illustration shows No. 3065 Sander with Stand, Rubber Feet, Motor, Remote Control Switch, Motor Pulley, Belt and Belt Guard.

FOR VERTICAL OR HORIZONTAL SANDING

Belt Sander Type Design

The use of a belt type sander rather than a disc type sander is based on the acknowledged superiority of this design. The belt sander cuts evenly across the entire face of the belt whereas the cutting effect of a disc sander varies from a maximum at the outside edge down to practically nothing at the center. Belt sanders produce a smooth finish by sanding with the grain and eliminating surface marks on the finished work. We know of no work for which the disc sander is used which can not be done and done better on a belt sander.

Vertical and Horizontal Carriage Adjustments

The conventional horizontal belt on sanders was given new and greater usefulness and versatility when Duro introduced the adjustable carriage that permits vertical belt sanding. Now the same advantages that were obtained from the horizontal belt can be applied to butt sanding and to sanding straight and compound angles. This ingenious and practical contribution to sander design is another proof of the conscientious effort and engineering skill which has been applied to this machine.

Self Lubricating Bronze Bearings

Self lubricating bronze bearings were chosen in preference to ball bearings when designing this unit. Our first object is always to build the best possible machine and the second is to give the best at the lowest possible price. Careful study and test runs proved to our engineers that self lubricating bronze bearings were satisfactory from every mechanical and practical point of view in this unit. Furthermore the use of self lubricating bronze bearings permits the machine to be produced and sold at a lower price and give lower maintenance costs. Three years of manufacturing this machine, thousands in the field and practically no replacement of worn bearings has proved our design is correct.

Rubber Covered Drums

Duro uses rubber covered sanding drums on this machine. The drums are designed and manufactured so that the rubber adheres firmly to the drum with no possibility of its working loose. Belt can be run at less tension without slipping on the pulley giving longer bearing and belt life. The rubber acts as a cushion to the belt, absorbing strain and materially increasing the life of the belt. This is important as sanding belts are the largest replacement item on a sander. Moreover, the use of a rubber covered drum permits using the drum for sanding irregular shapes — a valuable additional use of the machine. Woodworkers agree that it is not practical to sand on a metal sanding drum without having a cushion between the belt and the drum.

Open Construction for Maximum Utility

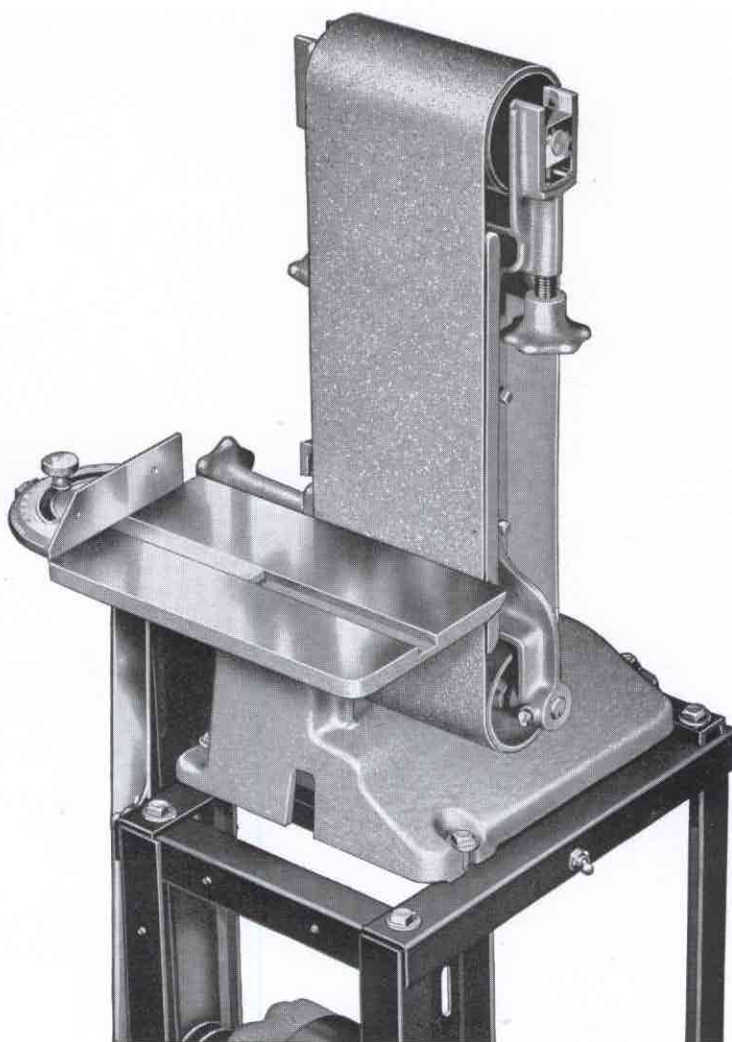
The 6" Sander has four advantages by being left open at the ends. Long pieces may be passed over the work table; the sanding drum may be used for curved surfaces; the unsupported side of the belt may be used for sanding irregular surfaces; the supported side for sanding inside corners. These operations are employed constantly and can be accomplished without having to partially disassemble the machine. For the operator who requires a sawdust chute Duro supplies one as an accessory.

SPECIFICATIONS

Sanding Belt size.....	6" x 44½"
Overall length 22¾"	Width 15"
	Height 25"
Table Supporting Belt.....	6" x 12½"
Auxiliary Tilting Table.....	6½" x 11"
Auxiliary Table Tilts.....	5° and 45°
Recommended motor for average use.....	⅓ H.P.
Size motor pulley for 1750 R.P.M. Motor.....	2"
Mount on No. 306585 Steel Stand.....	Requires 48" V Belt

ORDERING INFORMATION

3065 — Sander only with tilting table, mitre gauge, medium grit sanding belt.....Shipping weight 61 lbs.
 306532 — Dust Chute.....Shipping weight 2 lbs.
 306585 — Steel Stand for Sander.....Shipping weight 31 lbs.
 306590 — Belt and Pulley Guard.....Shipping weight 3 lbs.
 301586 — Remote Control Switch. (See page 51)...Ship. Wt. 1 lb.
 301588 — Rubber Feet for Stand. (See page 51)...Ship. Wt. 1 lb.
 Sanding Belts in various grits for wood and metal, see page 51.



With the carriage in the vertical position as shown above butt sanding may be done. By tilting the table to any position from 5° in one direction to 45° in the other, angle sanding is obtained or angle sanding can be done with the table in square position by using the mitre gauge. Compound angles are obtained by using the mitre gauge with the table tilted. In this carriage position sanding of curves may be done over the rubber covered drum and irregular shapes may be sanded on the unsupported side of the belt. Belt tension and belt alignment are easily and quickly adjusted by hand knob on each side of upper end of machine. Many metal working operations are conveniently and economically performed on this sander by using emery sanding belts shown on page 51.

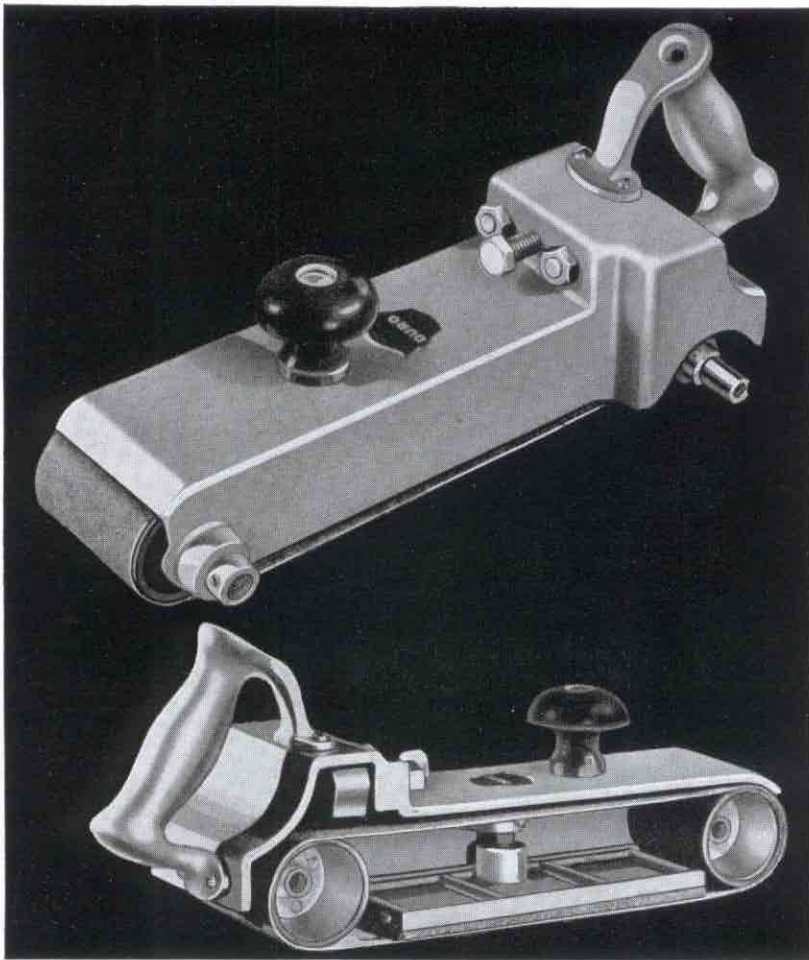
MITRE TABLE

View at the right shows the table tilting mechanism with graduated scale and pointer indicating the degree of tilt up to 45 degrees in one direction and up to 5 degrees in the other. One hand knob locks the table and the other knob locks the machine in the horizontal or vertical position. The tilting table is cast iron 6½ inches by 11 inches, surface ground and with mitre gauge graduated to 60 degrees in either direction furnished as standard equipment. Sander is equipped with self lubricating bronze bearings with oil reservoirs to renew lubrication.



DURO

PORTABLE BELT SANDER



Belt sanding is the most practical, economical labor saving and time saving way of sanding flat surfaces. Table tops, desk tops, cabinets, etc. can be sanded as efficiently as in the factory. A fine smooth even surface is obtained without ridges, corrugations or rings.

This Portable Sander has proved that it will do any sanding job as satisfactorily as portable sanders that usually sell for \$85.00 or more. It will accomplish in a few minutes and with little effort, work that would usually take hours of hand labor.

The main frame and pistol grip handles are high grade aluminum castings making the tool light in weight and easy to handle. When sanding, the design of the pistol grip allows the wrist and arm to assume a natural position at all times.

The rubber covered crown pulleys run on self lubricating bronze bearings which provide not only adequate lubrication at all times but prevent oil dripping out to mar finished work.

Conveniently located adjustments for setting the tension and tracking of the sanding belt are located on top of the frame in front of the pistol grip handle. The belt is backed at the sanding surface by an adjustable cast aluminum table with cork pad and a sheet metal cover plate.

The machine may be driven from the right or left side of the front or back pulley. For most work, however, the left side of the front pulley is the most convenient drive. The Sander is driven by any Flexible Shaft with a spindle $\frac{5}{16}$ "-24 threads.

Duro No. 3071 Flexible Shaft will give good results. For a longer shaft with greater flexibility add No. 307133 Extension. If No. 3073 Heavy Duty Flexible Shaft is used to drive the Sander, No. 307321 Adaptor is required.

The length overall of the sander is $16\frac{3}{4}$ inches — a large enough machine for the greater portion of sanding done in any woodworking shop. It should be run at motor speed of 1750 R.P.M. For average use, $\frac{1}{4}$ H.P. motor is recommended. Equipped with one medium grit sanding belt. For extra belts see Page 51.

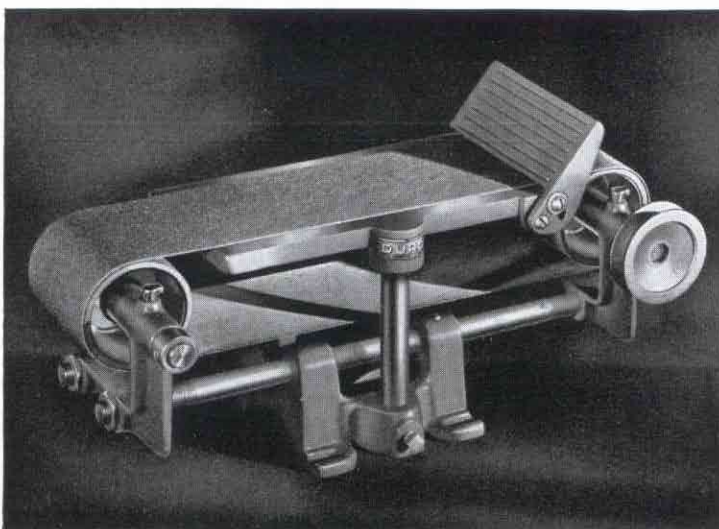
3061 — Portable Sander. . . . Shipping weight 11 lbs.

SPINDLE SANDER



Sands carvings, mouldings and irregular shapes. Allow garnet paper to overhang end of rubber drum. Run at 1750 to 3450 R.P.M. and press work against paper. Centrifugal force holds paper out and gives

resilient surface. Spindle fits any $\frac{1}{2}$ " shaft. Has expanding rubber drum to hold garnet paper roll. Rolls are formed and glued from garnet sheets using wood roller. 3062 — Spindle, wood roller and sheet of garnet paper, complete. . . . Ship. Wt. 2 lbs. 3260 — Special garnet paper for above size 9x12" — fine, medium and coarse. State grade wanted. Per dozen. . . . Shipping Weight 2 lbs.



DURO BENCH SANDER

The Duro Bench Sander is a sturdy inexpensive machine built to our usual high quality standards. The frame is heavy gray iron carefully machined assuring proper alignment of the two rollers. Each roller is crowned and rubber tired. Rubber tires not only add to the life of the belt on straight sanding but also permit using the rollers to sand curved surfaces. Rollers are supported on gray iron arms with long bearing surfaces and bearings are fitted with oil cups. Arms are mounted on two heavy steel rods with adjusting nuts to regulate tracking of the rollers and to adjust the tension of belt.

A 4x8 inch ground gray iron table supports belt and is adjustable for height. The sander is also provided with a fence, adjustable to 45° and that can be removed when sanding long pieces. Sander comes equipped with a 3x30 inch medium grit sanding belt. For extra belts, fine, medium, or coarse grit, see Page 51. Emery cloth belts are also listed making it possible to use this machine for metal cutting. Length overall, $13\frac{1}{2}$ ". Use $1\frac{3}{4}$ " motor pulley on 1750 RPM $\frac{1}{4}$ HP Motor.

3060 — Bench Sander. . . . Shipping weight 12 lbs.

DURO

ELECTRIC DRILLS



JACOBS



CHUCKS



UTILITY DRILL

A quality tool, not built to a price, but to meet the demand for a sturdy but light drill for close work in hard to get at places. Just the drill for cabinet work, pattern work, radio and airplane assembly and an excellent drill for the home workshop.

Duro Drills represent the finest quality materials and workmanship. Equipped with G. E. Motors; New Departure Ball-Bearings on spindle; Jacob keyed chuck; 10 feet of 3 wire rubber covered safety cord. The G. E. Switch is totally enclosed in the main case for close quarter drilling without handle. Double reduction helical cut gears are made from chrome vanadium steel — quiet and smooth running. Length 11½"; without handle, 9¼". For 110 volt A.C. or D.C. current, 60 cycles or less. Other voltage prices on request.

No.	Style	Duty	Capacity in Steel	No Load Speed	Shipping Weight
3300	DA	Utility	¼ in.	2000	5 lbs.

PISTOL GRIP DRILL

More power per pound has been put into these drills than before thought possible. Duro drills will not stall when used at their maximum capacity; and have ample safety factor beyond that point. Aluminum case ventilated to operate at full load continuously without overheating. Double reduction gears are helical cut chrome vanadium steel — heat treated and ground to give longer life.

Equipped with G. E. Motor; New Departure Ball Bearings; Jacobs keyed chuck; 10 feet of 3 wire safety cord; and Cutler-Hammer totally enclosed double pole trigger switch with lock for continuous running. For 110 Volt AC or DC current, 60 cycles or less. Other voltage prices on request.

No.	Style	Duty	Capacity in Steel	No Load Speed	Shipping Weights
3305	DB	Ex-Heavy	¼ in.	2000	10 lbs.
3310	DC	Heavy	⅝ in.	1400	11 lbs.
3315	DD	Special	⅜ in.	1300	12 lbs.

BREAST DRILLS

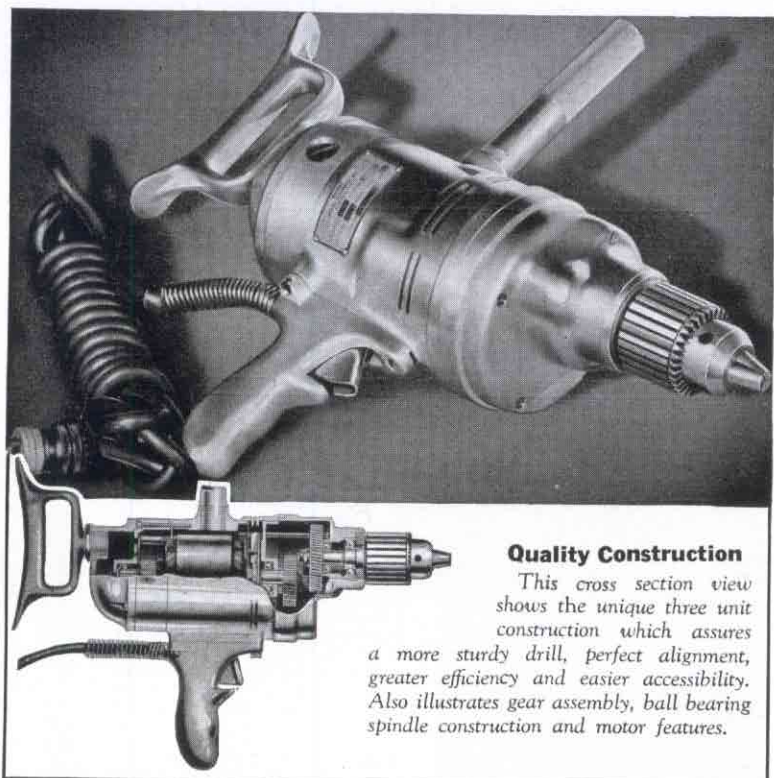
Duro designed these drills for efficiency and rugged durability to meet production conditions in industry. They are built in three self contained units — motor, gears, and brush mechanism. This construction assures sturdiness, positive alignment, greater efficiency and ease in cleaning.

They are equipped with Jacobs Key Chuck, New Departure Ball Bearings and 10 feet of 3 wire safety cord with unbreakable rubber plug. The Cutler Hammer totally enclosed double pole switch has a lock for continuous running. They are fitted with double reduction helical cut gears made from chrome vanadium heat treated steel — ground to give longer life and smooth, quiet operation.

Note that Duro drills are streamlined to give the minimum of offset from the center line of chuck and to allow operator to drill close to wall.

Like all Duro Drills, they are powered with special G. E. Universal Motors that run continuously under maximum load without overheating or stalling. For 110 Volt A.C. or D.C. current, 60 cycles or less. Prices furnished for special voltages on request.

No.	Style	Duty	Capacity in Steel	No Load Speed	Shipping Weights
3320	DF	Ex-Heavy	½ in.	550	21 lbs.
3325	DG	Heavy	⅝ in.	480	22 lbs.
3330	DH	Standard	¾ in.	425	23 lbs.



Quality Construction

This cross section view shows the unique three unit construction which assures a more sturdy drill, perfect alignment, greater efficiency and easier accessibility. Also illustrates gear assembly, ball bearing spindle construction and motor features.

DURO

HEAVY DUTY GRINDER



Duro offers you the finest Hand Grinder that has ever been built and at a moderate price too! It has everything — Power, Speed, Precision, Compactness, Balance, and Streamline Design.

It is powered by a General Electric Universal Motor dynamically and statically balanced, of the series wound type for maximum performance, developing over 40 watts output and running 24,000 R.P.M. The motor has a standard commutator with machined V grooves, and steel clamping rings such as are used on electric power drills. The brushes ride on the periphery of the commutator — not on the end — giving better performance and longer life. The brushes are the square cartridge type — not round. This design gives maximum seating as the brushes cannot turn in the holders. The toggle type switch is conveniently located at the back end of the housing.

The proper mounting of high speed units is vital. In this case the spindle operates on wide New Departure Precision Ball Bearings, totally sealed to prevent grit getting in or grease leaking out. The extra large bearings and heavy mountings take radial load and end thrust. The propeller type fan such as is used on power drills pulls a large volume of air through and over all working parts to insure a cool running unit. An 8 foot three wire rubber covered cable is used and the tool is grounded to prevent any possibility of electric shock.

There is precision machining throughout. For example the bearing seats are bored to 2/10,000 of an inch. The two housings have machined rabbit fits to assure perfect alignment.

A specially designed threaded type collet chuck with capacity up to 1/8 inch overhangs the housing only 5/16 of an inch. A patented lock operated by a button slides a pin into a groove on the back of the chuck and locks the shaft so that the chuck may be easily tightened or loosened.

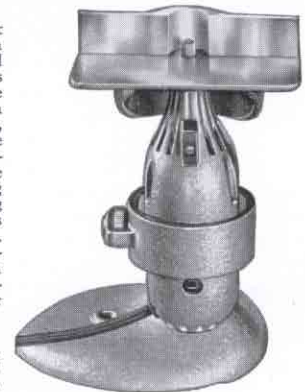
The streamline design fits the operator's hands and has just enough weight for perfect balance. This grinder develops far more power per ounce of weight than any unit on the market. The motor runs on 110 volt, 60 cycle or less AC or DC current. 220 volts can be supplied at a slight additional charge. For burrs, bits and grinding accessories see Pages 47 and 48.

3049—Heavy Duty Grinder with two collets and chuck wrench, Ship. Wt. 3 lbs.

SHAPER-CARVER

The illustration at the right shows the Grinder set up as a Spindle Shaper. The high speed — 24,000 R.P.M., the surplus power — over 40 watts output the rigid stand and large 3 3/4 by 5 inch table made of heavy cast iron, with adjustable shaper guide make this machine ideal for clean shaping cuts. One half turn on the knurled knob permits adjusting the tool for cutter height. By using various cutters and burrs hundreds of different cuts may be made. With the shaping table and upright removed the unit becomes a regulation bench stand as illustrated below. Tool post adaptor included.

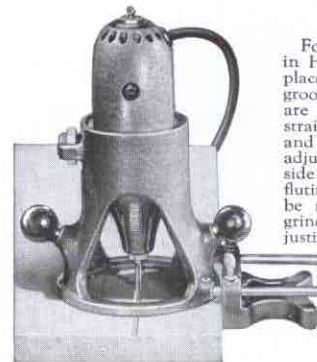
3049-55—As illustrated less Grinder. Ship. Wt. 7 lbs.
3049-70—Shaping table, post and guide only. Ship. Wt. 3 lbs.



ROUTER

For routing the Grinder is mounted in Hand Router Base. It is held in place by clamping blocks that fit into grooves on side of housing and that are tightened by knurled knob. A straight and circular gauge is supplied and is attached with thumb screw adjustments to rods extending from side of base. All types of beading, fluting, veining and routing cuts can be made with this accessory. Set grinder for correct depth cut by adjusting knurled knob. For irregular work, wide opening in base permits following pattern easily. For regular work use the gauge.

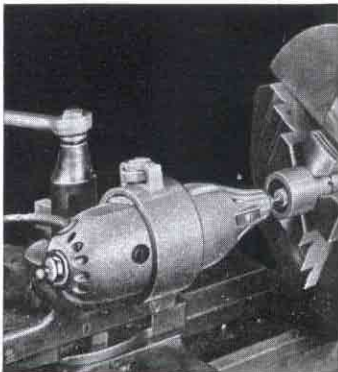
3049-30—As illustrated, less Grinder. Ship. Wt. 2 lbs.



TOOL POST ADAPTOR

Pictured at the left the Grinder is being used as a tool post Grinder. The adaptor holds the tool securely in any tool post holder of any regulation lathe and may be quickly adjusted for all types of internal or external grinding. Not necessary to buy tool post adaptor if shaper-carver assembly is purchased as it is included. The Heavy Duty Grinder with the G.E. Motor, New Departure Ball Bearings, precision machining, 24,000 R.P.M. and over 40 watts output assure a real tool post grinder for precision or production work.

3049-45—Tool Post Adaptor only. Shipping weight 2 lbs.



BENCH STAND

Mounted in the Bench Stand as illustrated at the left, the Grinder is used as a carver. The Bench Stand is rigid and solid. It is built up by using the tool post holder with the heavy cast base which may be fastened to the bench. Note the freedom of movement around the cutter this setup permits. Heavy or delicate cuts may be made in wood, plastic or metal. The Bench Stand also permits using both hands to guide the work. To make a Shaper from the Bench Stand add No. 3049-70 Shaping Table, Post and Guard listed above.

3049-60 as illustrated less Grinder. Shipping Weight 4 lbs.

America's Finest and Most Complete

DURO MODEL MAKERS LATHE



A new field has been opened to the model-maker or craftsman by the lathe attachment illustrated above. Now, those small parts used in model-making that were formerly made by hand or else purchased at high prices can be quickly and economically produced in your own workshop. The Heavy Duty Grinder is clamped in the headstock and is held rigidly in perfect alignment with the tailstock center. The Grinder may be quickly removed from the headstock for free hand work or for use with other attachments. The output of over 40 watts provides ample power for turning wood or plastics. The high speed assures fast cutting and smooth finished work that does

not have to be sanded. Two large New Departure Precision Ball Bearings take up all radial and end thrust load. The distance between centers, 12", provides adequate capacity for turning masts and similar long pieces. Small pulleys, wheels and an unlimited variety of parts can be made with speed and precision. Overall length 24", height 6 1/4", distance from bed to centers 3". Equipped with 4" tool rest, tool rest holder and driving center. Modelmakers Turning Chisels for use with this lathe are shown on Page 47.

304975—Model Makers Lathe, less grinder. . .Shipping weight 12 lbs.
304978—1 1/2" Face Plate for above Lathe. . . .Shipping weight 1/2 lb..

DURO MODEL MAKERS DRILL PRESS



The range of usefulness of the Heavy Duty Grinder is further increased by this Model Makers Drill Press. This attachment converts the Heavy Duty Grinder into a sensitive type Drill Press for accurate and speedy work. Its extra rigid construction, the precision machining of all parts, its practical design plus the power, speed and balance of the Heavy Duty Grinder makes this an ideal tool for the Model Maker, craftsman or anyone requiring precision operation at high speeds. The two large New Departure Precision Ball Bearings in their heavy mountings efficiently take up all radial and end thrust load insuring longer life and greater accuracy.

With this attachment you can do numerous operations that before, either were impossible or else were accomplished with difficulty. Drilling, routing, veining and many other operations are done quickly, accurately and with ease.

The large gray iron base, with 5x5 inch working surface, and the heavy column assures rigidity at all times. The 4 3/4 x 4 3/4 inch machined and ground table raises, lowers or can be moved out of the way to give the maximum capacity of 11 inches from base to chuck. The large size of the table and base provides adequate support when working up to the capacity of the tool. Slots are provided in both the base and table to permit fastening jigs and fixtures for duplicate work.

The Heavy Duty Grinder is quickly and easily mounted in the head of the Drill Press. Just two wing nuts to tighten and the Grinder is held absolutely rigid and in correct alignment for accurate drilling. The Grinder is just as easily removed for free hand work or for use with any of the other attachments available. The complete head assembly is adjustable on the column and may be raised or lowered to suit the operators convenience. Lever handle actuates raising and lowering of the Grinder for drilling. Tension spring returns the Grinder to the raised position smoothly and without whip. A full 2 inch stroke provides more than ample depth capacity for all types of model making. The distance from column to chuck allows drilling to the center of a 6 3/4 inch circle. The overall height is 19 3/4 inches. Furnished in crackle gray baked enamel.

304985—Model Makers Drill Press, less grinder.Shipping Weight 14 lbs.

DURO GRINDER KIT

The Duro Grinder Kit displayed here sets a new standard of value in this field for usefulness and genuine economy. This Kit features a most practical combination of the famous No. 3049 Heavy Duty Grinder, the heavy gauge steel case and a useful selection of accessories.

The Power, Speed, Precision and Balance of the Heavy Duty Grinder insures surplus power and speed for all types of work. The practical case — made of heavy gauge steel — is designed to withstand the hardest use. Eight generous compartments are furnished for sanding discs, drums, etc., and extra places are provided so you can add other burs to this set if needed. The case provides an orderly place for keeping hand grinder and accessories together when in the shop, while a heavy luggage type leather handle makes it ideal for taking out on the job. Two automatic catches and a hinged hasp for padlocking give positive assurance the case will not open unexpectedly. Case is handsomely finished in crackle gray baked enamel.

The Kit includes — 3049 Heavy Duty Grinder, Steel Case, 1 each of the following accessories — B44, B66, B123, W144, B173, W185



Mounted Points — 3571A, 3571F, 3571G, 3571H, 3571K, 3571L, 3571M, 3571P, 3571R, 3571S Burrs — 3575A Sanding Drum, 3575C Wire Wheel, 3575D Bristle Brush, 3575E Cup Shape Bristle Brush, 3575F Bristle Brush, 3575G Felt Wheel, 3575T Mandrel for Sanding Discs, 24 each 3575H Sandpaper Coarse, 3575H Sandpaper Fine, 3575I Sandpaper Coarse, 3575I Sandpaper Fine; and 6 each 3575J No-Lap Sanding Sleeves.

3585—Grinder Kit Complete.Shipping Weight 8 lbs.

DURO

STREAMLINE GRINDER



The Duro Streamline Grinder is a fitting companion to the Heavy Duty Grinder. Check the Streamline with any other Grinder in its price field — compare its many advantages — the abundance of power developed — its greater speed — its light weight and ease of handling, by actual tests. The Duro Streamline is an outstanding value.

The Streamline is powered by a full universal General Electric Motor of the same type that has made the famous Heavy Duty Grinder so outstanding.—Conventional series wound motor, standard commutator with machined V-grooves, steel clamping rings, square replaceable brushes, improved cooling and light weight. The Streamline design, precision construction, power and speed are combined into a single unit to give you the finest grinder it is possible to produce in this price field.

The Streamline Grinder delivers 17 watts output at the spindle meaning surplus power with which you can accomplish difficult jobs faster and easier. The high speed, approximately 24,000 R.P.M., gives a smooth, finished cut on all types of work. Its light weight — only 12 ounces — plus its Streamline design makes it ideal for fine single hand work. It is only 6 $\frac{3}{8}$ inches in length. Its small size makes it invaluable for grinding, drilling, polishing, etc., in extremely hard to get at places.

The motor is enclosed in a moulded shock-proof case. The dy-

namically and statically balanced armature is mounted on highest quality, self-aligned sleeve bearings of oil retaining bronze to insure accuracy and vibrationless operation. Oil wicks, provided as an added safety factor, insure continuous lubrication for long, trouble free service. An improved propeller type fan produces the necessary volume of air to maintain efficient cooling — grinder can be run continuously without overheating. Square, replaceable brushes, ride on the periphery of the commutator — not on the end — assuring proper commutation. The square cartridge type brushes have the additional advantage that they cannot turn in their holders, thereby giving maximum seating capacity. Push button switch is mounted flush with housing near the back of the tool and is conveniently located for instant starting and stopping. Specially designed collet chucks hold $\frac{3}{8}$ " and $\frac{1}{8}$ " shanks. An opening at front of housing is provided for chuck holder to lock the shaft when tightening or loosening chuck. The motor runs on 110 volt, DC or AC current, 60 cycles or less. Equipped with 6 foot rubber covered cord.

Again we say, "Check the Duro Streamline with any other Grinder in its price field, point for point, feature for feature. You'll find the Streamline sets an entirely new standard of value for Grinders in this price class."

3046—Streamline Grinder, 2 collets, chuck holder. Ship. Wt. 2 $\frac{1}{2}$ lbs.

NOTE: We state the watts output of all Duro Grinders. Do not confuse watts output with watts input. Watts input is the amount of current consumed and does not indicate the power developed. Only watts output can tell you how much power is delivered at the spindle. Inefficient motors consume a large amount of current (which is watts input) but deliver a small number of watts output. Ask before you buy — "What is the watt output of this Grinder?"

DRILLING ATTACHMENT

Don't miss this value — TWO TOOLS IN ONE — a Drilling Attachment for the Scroll Saw and a Hand Grinder with plenty of power. Use it on your Scroll Saw and drill your work right on Scroll Saw Table. On inside work, simply press the plunger and drill the hole for inserting the blade. On relief or inlay work where the cut must be made at an angle, the table may be set at the proper angle and when holes are drilled for inside work they will be at correct angle. Spring automatically returns unit to original position.

Easily attached to either side of practically any Scroll Saw. As bracket has a double joint it may be moved to almost any position over the work. By loosening one set screw motor may be removed from bracket and used as a Hand Grinder. The standard universal motor is fan cooled, with speed of over 10,000 R.P.M. Complete with 2 collets for drills and accessories from 0 to $\frac{1}{8}$ inches, chuck guard for grinding, 6 ft. rubber covered cable, plug and switch.

3351—Drilling Attachment. . . . Shipping Weight 4 lbs.



FILTERETTE

Designed to eliminate objectionable radio interference from small high speed universal motors such as hand grinders, drilling attachments, electric shavers, etc. Plug Filterette into the wall socket and then plug cord of machine causing the interference into the Filterette. A simple efficient device costing nothing to operate, that will save annoyance and trouble.

304920—Filterette.



DURO SUPER-VALUE GRINDER



The Duro Super-Value Grinder is the ideal tool for the craftsman or model maker who wants the very latest in design, the greatest amount of speed and the most power that it is possible to buy for a given investment.

We have run comparative tests on other make grinders and have only been able to find a competitive unit in the next higher price bracket, that has the combined power and speed that this unit possesses.

Compare this Grinder with any other unit up to the \$10.00 price range and you will find that it has a great deal more power than any competitive unit on the market at the present time.

An outstanding feature is the cool operation of the motor. It has a large propeller type fan to pull air over and through the working parts with the result that it can be run for hours and will not overheat.

The motor operates at approximately 18,000 R.P.M. and 8 watts output. The latest type of self-lubricating, self aligning bushings are used to assure frictionless operation. Square cartridge type brushes—not round—set firmly in the brush holders without turning, assuring maximum performance from good commutation. The motor is turned on and off by means of a toggle switch located near the top

of the housing. A collet chuck with two collets is provided to hold all accessories with $\frac{3}{32}$ " or $\frac{1}{8}$ " diameter shanks.

The housing is black Bakelite. The Grinder measures $5\frac{1}{2}$ inches long overall and is equipped with a 6 foot rubber covered cord. A removable guard is available that fits over the chuck which permits holding the Grinder close to the bits for accurate guiding in delicate work.

The Grinder operates on 110 volt, AC or DC current, 60 cycles or less. This Hand Grinder has a wide variety of uses, will perform the work of any Grinder in this price field and because of its greater power will do a better, smoother and faster job.

3048—Super-Value Hand Grinder less Guard. Shipping Weight 2 lbs.
304830—Guard for 3048 Grinder. Shipping Weight 2 ozs.



FOOT OPERATED SPEED REGULATOR

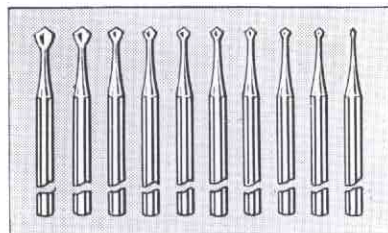
The Speed Regulator is used with any Duro Hand Grinder or with any 110 volt AC or DC motor drawing up to 75 watts, to control the speed and power developed. Many operations in factory and shop require varying speeds or require frequent stopping and starting of the machine while both hands are engaged. Ideal for many operations on Model-makers Lathe and Drill Press (see page 45).

The speed regulator is essentially a rheostat connected in series with the machine it controls. The electric plug of the speed regulator

is first inserted in the electrical outlet or source of power. Then the plug of the machine is inserted in back of the speed regulator plug—easy to connect or disconnect in a few seconds.

With the foot off the regulator, the current is off. The farther the regulator pedal is depressed, the faster the speed of the machine, up to full speed when fully depressed.

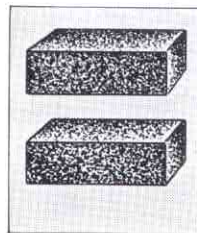
The speed regulator measures $3\frac{3}{8}$ inches wide by $5\frac{1}{2}$ inches long, is finished in black japan and has a 5 foot rubber cord with plug.
304927—Speed Regulator. Ship. Wt. 2 lbs.



MODEL MAKERS DRILLS

Made of high grade Tungsten steel. Designed for high speed drilling of shallow holes in woods, plastics and soft metals. Essential for fine model-making. Made in U.S.A.

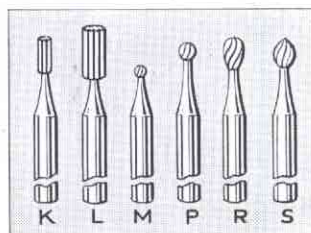
3579A .035 Diam.	3579F .055 Diam.
3579B .037 "	3579G .065 "
3579C .040 "	3579H .070 "
3579D .045 "	3579I .080 "
3579E .050 "	3579K .090 "



DRESSING STONES

Keep abrasive points sharp and true. Indispensable for cleaning and removing glaze. Made of high quality Silicon Carbide bonded for hardness.

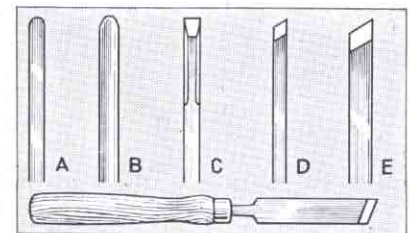
3575W—Dressing Stone.



FINISHING BURRS

Made of Tungsten Steel. Correctly designed, hardened. For finishing cuts in woods, plastics, soft metals. $\frac{1}{8}$ " shafts.

3571K	Diam. $\frac{1}{8}$ "	Length $\frac{3}{8}$ "
3571L	" $\frac{1}{8}$ "	" $\frac{1}{4}$ "
3571M	" $\frac{1}{8}$ "	" $\frac{1}{8}$ "
3571P	" $\frac{1}{8}$ "	" $\frac{1}{8}$ "
3571R	" $\frac{1}{8}$ "	" $\frac{3}{16}$ "
3571S	" $\frac{1}{8}$ "	" $\frac{1}{4}$ "

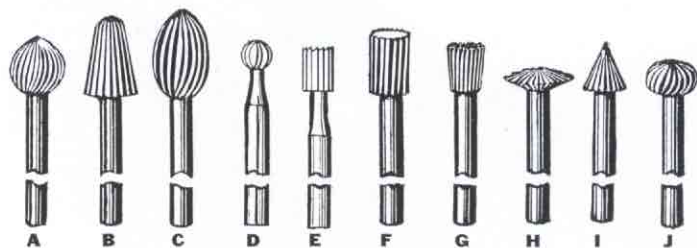


MODEL MAKERS TURNING CHISELS

Made from crucible steel—especially designed for high speed work. Carefully hardened and tempered. Chisels with hardwood handles are 9" overall.

320201 (D)	$\frac{1}{4}$ " Skew.
320202 (E)	$\frac{1}{2}$ " Skew.
320203 (B)	$\frac{1}{2}$ " Gouge.
320204 (A)	Round Nose
320205 (C)	Cut-off Tool
3202 Set of 5 Chisels.	Ship. Wt. 2 lbs.

HAND GRINDER ACCESSORIES

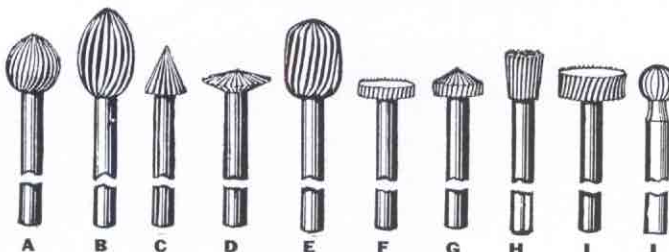


BURRS FOR WOOD

Burrs are made of exceptionally high-grade Tungsten steel, accurately designed and correctly hardened, for use in cutting and engraving wood, plastics, etc. $\frac{1}{8}$ inch polished shafts. These cutters should not be used for cutting steel. Made in U. S. A.

No.	Diam.	Length	No.	Diam.	Length
3571A	$\frac{5}{16}$ "	$\frac{5}{16}$ "	3571F	$\frac{1}{4}$ "	$\frac{5}{16}$ "
3571B	$\frac{5}{16}$ "	$\frac{7}{16}$ "	3571G	$\frac{1}{4}$ "	$\frac{7}{32}$ "
3571C	$\frac{1}{4}$ "	$\frac{15}{32}$ "	3571H	$\frac{3}{8}$ "	$\frac{5}{32}$ "
3571D	$\frac{13}{64}$ "	$\frac{13}{64}$ "	3571I	$\frac{1}{4}$ "	$\frac{5}{16}$ "
3571E	$\frac{3}{16}$ "	$\frac{1}{4}$ "	3571J	$\frac{1}{4}$ "	$\frac{5}{32}$ "

3570 — Set of Burrs Consists of Nos. A-C-E-G-H-I



BURRS FOR METAL

Properly designed and correctly hardened for cutting steel such as is used in dies and other metals. Made from extra quality Tungsten steel. Have $\frac{1}{8}$ inch polished shafts. Not to be confused with lower priced burrs made of ordinary steel. Made in U. S. A.

No.	Diam.	Length	No.	Diam.	Length
3573A	$\frac{5}{16}$ "	$\frac{5}{16}$ "	3573F	$\frac{5}{16}$ "	$\frac{5}{64}$ "
3573B	$\frac{5}{16}$ "	$\frac{15}{32}$ "	3573G	$\frac{9}{32}$ "	$\frac{5}{32}$ "
3573C	$\frac{15}{64}$ "	$\frac{1}{4}$ "	3573H	$\frac{15}{64}$ "	$\frac{3}{16}$ "
3573D	$\frac{11}{32}$ "	$\frac{5}{32}$ "	3573I	$\frac{11}{32}$ "	$\frac{7}{64}$ "
3573E	$\frac{5}{16}$ "	$\frac{7}{16}$ "	3573J	$\frac{15}{64}$ "	$\frac{15}{64}$ "

3572 — Set of 6 Burrs Consists of Nos. A-B-C-D-E-H



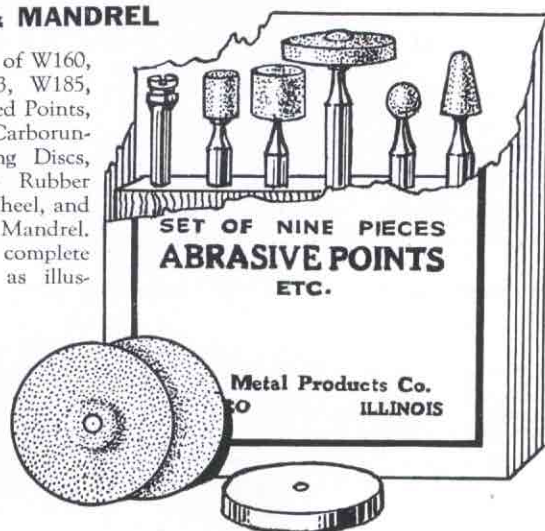
MOUNTED ABRASIVE POINTS

Assortment of mounted points illustrated above offers a wide selection suitable for practically all needs. Made by a well known American manufacturer of high quality abrasives correctly bonded. True, properly balanced and guaranteed to stay on shanks. For use on steel dies, moulds and other hard materials. Furnished with $\frac{1}{8}$ shanks. Light pressure gives maximum efficiency and extra life.

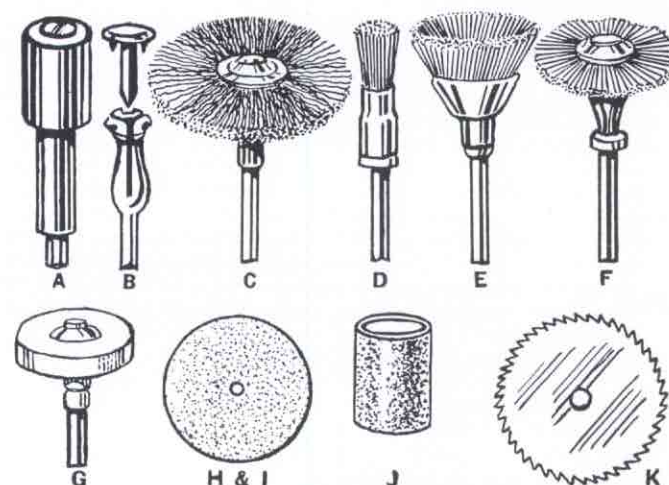
No.	Diam.	Length	No.	Diam.	Length
W160	$\frac{1}{4}$ "	$\frac{1}{4}$ "	B37	$\frac{5}{16}$ "	$\frac{3}{32}$ "
W191	$\frac{5}{8}$ "	$\frac{1}{8}$ "	B123	$\frac{3}{16}$ "	$\frac{3}{16}$ "
W144	$\frac{1}{8}$ "	$\frac{1}{4}$ "	W185	$\frac{1}{2}$ "	$\frac{1}{2}$ "
B98	$\frac{1}{8}$ "	$\frac{1}{4}$ "	B44	$\frac{7}{32}$ "	$\frac{3}{8}$ "
B66	$\frac{1}{4}$ "	$\frac{1}{4}$ "	B173	$\frac{3}{8}$ "	$\frac{1}{8}$ "

SET OF NINE PIECES—ABRASIVE POINTS, DISCS & MANDREL

Set consists of W160, W191, B123, W185, B44 Mounted Points, two 3575R Carborundum Cutting Discs, one 3575P Rubber Polishing Wheel, and one 3575M Mandrel. 3574—Set, complete in carton, as illustrated.



See page 47 for other grinder accessories



GENERAL ACCESSORIES

Number	Description	Size	Unit
3575A	Sanding Drum	$\frac{3}{8}$ " x $\frac{1}{2}$ "	Each
3575B	Mandrel for Sanding Discs		Each
3575C	Wire Wheel—Double Thickness	$1\frac{1}{16}$ " Dia.	Each
3575D	Bristle Brush	$\frac{5}{32}$ " x $\frac{1}{4}$ "	Each
3575E	Cup Shape Bristle Brush	$\frac{3}{16}$ "	Each
3575F	Bristle Brush	$\frac{3}{4}$ "	Each
3575G	Felt Wheel	$\frac{5}{8}$ "	Each
3575H	Sandpaper disc, Fine or Coarse	$\frac{5}{8}$ "	100
3575I	Sandpaper disc, Fine or Coarse	$\frac{7}{8}$ "	100
3575J	No-Lap Sanding Sleeve for 3575A	$\frac{1}{2}$ " Grit	Dozen
3575K	Saw Blade	$\frac{3}{4}$ "	Each
3575L	Saw Blade	$\frac{1}{16}$ "	Each
3575M	Mandrel for above Saws	$1\frac{3}{4}$ " x $\frac{1}{8}$ "	Each
3575P	Rubber Polishing Wheels	$\frac{7}{8}$ " x $\frac{1}{8}$ "	Dozen
3575R	Carborundum Cutting Discs	$\frac{7}{8}$ " x $\frac{1}{64}$ "	Dozen

HIGH SPEED ROUTER BITS

VEINING BITS

- 3576A — $\frac{1}{16}$ "
- 3576B — $\frac{3}{32}$ "
- 3576C — $\frac{1}{8}$ "



FISH TAIL BITS

- 3577A — $\frac{1}{8}$ "
- 3577B — $\frac{3}{16}$ "



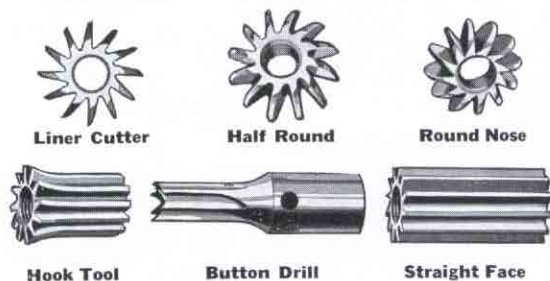
STRAIGHT ROUTER BITS

- 3578A — $\frac{1}{8}$ "
- 3578B — $\frac{3}{16}$ "
- 3578C — $\frac{1}{4}$ "



Bits made of high speed steel, hardened and tempered. Used for routing, inlaying and molding cuts. Bits have $\frac{1}{8}$ shanks. Made in U. S. A.

SHAPER - CARVER - ROUTER - JOINTER CUTTERS



CARVER CUTTERS

Highest quality heat treated steel. Cutters have $\frac{3}{8}$ "-24 threads to fit all standard carving spindles.

355001	Straight Face, Out. Diam. Cutter	$\frac{3}{8}$ "
355002	Round Nose, Out. Diam. Cutter	$\frac{3}{8}$ "
355003	Liner Cutter, Out. Diam. Cutter	$\frac{3}{8}$ "
355004	Hook Tool, Out. Diam. Cutter	$\frac{3}{8}$ "
355005	Half Round, Out. Diam. Cutter	$\frac{3}{8}$ "
355006	Button Drill, Out. Diam. Cutter	$\frac{3}{8}$ "

$\frac{1}{2}$ -Inch Bore SHAPER CUTTERS

Cutters illustrated at right are made in our own factory from a special alloy steel. They are carefully heat treated and accurately machined — as fine a cutter as it is possible for us to make. Resharpen by grinding across face of cutter with flat wheel to retain original diameter and shape. Maximum diameter is $1\frac{1}{4}$ inches; maximum width 1 inch.

Order individual cutters from number under illustration.
3591A—Set of 6, $\frac{1}{2}$ " bore Depth Collars. Ship. Wt. 1 lb.
3520A—Set of 8 cutters illustrated at left and 6 depth washers packed in neat indexed wood box. Ship. Wt. 4 lbs.

SPLIT SHAPER COLLARS

Specially designed for those who prefer to grind their own shaper knives. Two beveled edge shaper knives are clamped between collars. Knives are made of high speed steel, hardened and tempered ready for grinding to design required. Each knife is $2\frac{1}{8}$ " long x $\frac{3}{8}$ " thick.
356001 — Pair of Shaper Collars, $1\frac{1}{4}$ " diameter.
356002 — Shaper knife blanks, $\frac{3}{8}$ " wide — each.
356004 — Shaper knife blanks, 1" wide — each.



$\frac{5}{16}$ -Inch Bore SHAPER CUTTERS

Made from high quality chrome vanadium steel, heat treated and accurately machined. Cutters are matched to fit each other — see below for illustration of combination cutting. For use with any $\frac{5}{16}$ " diameter spindle.

Number	Width	Diameter	Number	Width	Diameter
350101	.177	.950	350201	.221	.994
350102	.264	.950	350202	.442	1.03
350103	.354	.950	350301	.303	1.09
350104	.442	.950	350302	.388	1.16
350401	.125	.950	350701	.282	1.18
350402	.156	.950	350702	.344	1.24
350403	.187	.950	350901	.177	1.12
350404	.250	.950	350902	.282	1.12
350601	.177	1.02	350801	.194	1.13
350602	.264	1.06	350802	.260	1.20
350603	.354	1.09	350501	.442	1.25
350604	.442	1.13	351001	1.00	1.25

3590A — Set of 6, $\frac{5}{16}$ " bore Depth Collars. Ship. Wt. 1 lb.
3500B — Set of 24 cutters and 6 depth washers illustrated at right. Packed in neat indexed wood box. Ship. Wt. 4 lbs.

COMBINATION CUTTING

The picture at right illustrates how several cutters may be used to make combination cuts. These are all matched and may be used in conjunction with each other to make hundreds of different designs of fancy mouldings.



ROUTER CUTTERS

Number	Type	Shank	Size
353006	Single Lip	$\frac{3}{8}$ "	$\frac{1}{8}$ -in.
353001	Single Lip	$\frac{3}{8}$ "	$\frac{1}{8}$ -in.
353007	Single Lip	$\frac{3}{8}$ "	$\frac{1}{8}$ -in.
353002	Single Lip	$\frac{3}{8}$ "	$\frac{1}{8}$ -in.
353003	Double Lip	$\frac{3}{8}$ "	$\frac{1}{8}$ -in.
353004	Double Lip	$\frac{3}{8}$ "	$\frac{1}{8}$ -in.
353005	Double Lip	$\frac{3}{8}$ "	$\frac{1}{8}$ -in.
354001	Cove	$\frac{3}{8}$ "	$\frac{1}{8}$ -in.
354003	Cove	$\frac{3}{8}$ "	$\frac{1}{8}$ -in.
354004	Cove	$\frac{3}{8}$ "	$\frac{1}{8}$ -in.



PICTURES
BELOW SHOW
ACTUAL END
SIZES OF
BLADES

303316

303113

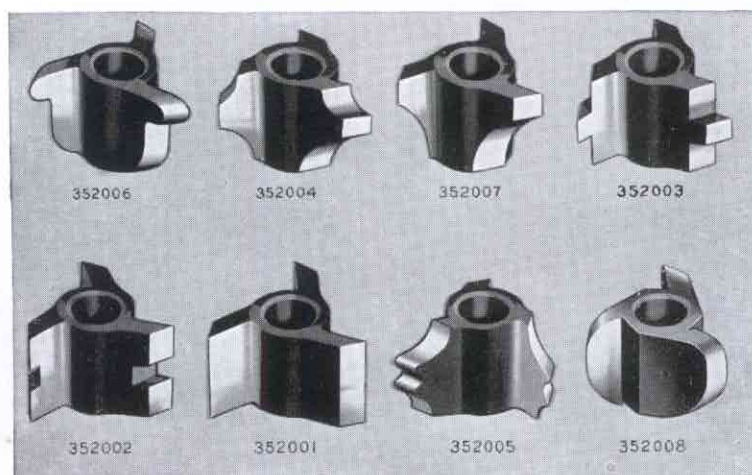
JOINTER CUTTERS

Finest quality high speed tool steel. Sharpened for use.

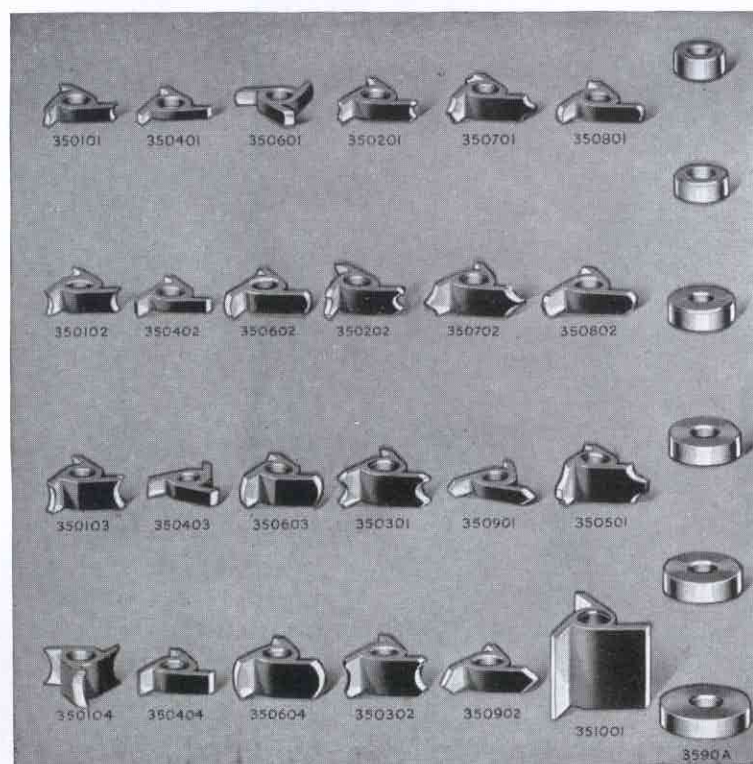
303316 — Set of three $4\frac{1}{2}$ " Cutters to fit No. A-3033 Jointer.

303113 — Set of three 6" Cutters to fit No. D and E-3031 Jointers.

B303112 — Set of three 6" Cutters to fit No. F-3031 Jointer.



CHROME VANADIUM STEEL CUTTERS



DURO Quality SAWS

COMBINATION RIP AND CROSSCUT

Quality Saw Blades built to give maximum cutting efficiency. Made from fine quality crucible alloy steel, with a sharp cutting edge, correctly tempered, hand filed, hammered and set for proper balance and true cutting. Will not bind or buckle.

- 3456A—18 Gauge Diameter... 6" $\frac{1}{2}$ " bore.
 3457A—18 Gauge Diameter... 7" $\frac{1}{2}$ " bore.
 3458A—18 Gauge Diameter... 8" $\frac{5}{8}$ " bore.
 3458X—Same as 3458C, but teeth are set and blade is not hollow ground.
 3460X—Same as 3460C, but teeth are set and blade is not hollow ground.

CROSSCUT SAWS

Made especially for cross cutting with same precision and from same fine quality steel.

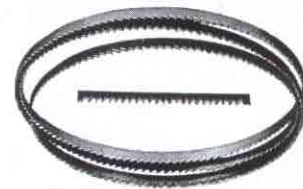
- 3454B—18 Gauge Diameter... 4" $\frac{1}{2}$ " bore.
 3456B—18 Gauge Diameter... 6" $\frac{1}{2}$ " bore.
 3457B—18 Gauge Diameter... 7" $\frac{1}{2}$ " bore.
 3458B—18 Gauge Diameter... 8" $\frac{5}{8}$ " bore.
 3460B—18 Gauge Diameter... 10" $\frac{5}{8}$ " bore.

HOLLOW GROUND MITRE SAWS

A hollow ground blade is used for jointing finished lumber. In order to have an extra smooth finish the teeth are unset and clearance is provided by the hollow grinding. Made from the finest crucible alloy steel correctly tempered and balanced.

- 3456C—16-19 Gauge Diameter... 6" $\frac{1}{2}$ " bore.
 3457C—15-18 Gauge Diameter... 7" $\frac{1}{2}$ " bore.
 3458C—15-18 Gauge Diameter... 8" $\frac{5}{8}$ " bore.
 3460C—15-18 Gauge Diameter... 10" $\frac{5}{8}$ " bore.

BAND SAW BLADES



Only high grade alloy steel has been selected for our Band Saw blades. They are correctly tempered and carefully set for fast smooth cutting in all kinds of wood. Strong, flexible — give longer life. Use our Quality Saw Blades to assure satisfaction. In ordering, state width wanted.

BLADES FOR 9½-INCH SAWS

- 3442—60" blade for wood $\frac{1}{8}$ ", $\frac{3}{16}$ " or $\frac{1}{4}$ " wide
 3442—60" blade for wood $\frac{3}{8}$ " wide
 3443—60" blade for soft metal $\frac{3}{8}$ " wide

BLADES FOR 12½-INCH SAWS

- 3444—78" blade for wood $\frac{1}{8}$ ", $\frac{3}{16}$ " or $\frac{1}{4}$ " wide
 3444—78" blade for wood $\frac{3}{8}$ " wide
 3445—78" blade for soft metal $\frac{3}{8}$ " wide

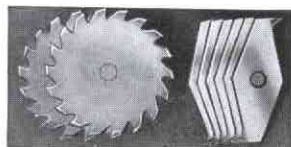
BLADES FOR 15-INCH SAWS

- 3448—95" blade for wood $\frac{1}{8}$ " wide
 3448—95" blade for wood $\frac{1}{4}$ " wide
 3448—95" blade for wood $\frac{3}{8}$ " wide
 3448—95" blade for wood $\frac{1}{2}$ " wide
 3449—95" blade for soft metal $\frac{3}{8}$ " wide

BLADES FOR 16-INCH SAWS

- 3446—111" blade for wood $\frac{1}{8}$ " wide
 3446—111" blade for wood $\frac{1}{4}$ " wide
 3446—111" blade for wood $\frac{3}{8}$ " wide
 3446—111" blade for wood $\frac{1}{2}$ " wide
 3446—111" blade for wood $\frac{3}{4}$ " wide
 3447—111" blade for soft metal $\frac{1}{2}$ " wide

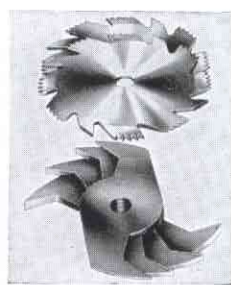
JIG SAW BLADES



DADO HEADS, 4" and 5"

Dado Heads are used for cutting grooves of various widths and depths, both with and across the grain. Remove the aluminum table insert on table saw and use in place of saw blade. These are made of high-quality tempered steel, hand-set and filed. A complete set consists of two outside blades, each $\frac{3}{32}$ " thick and six inside cutters, each .062" thick.

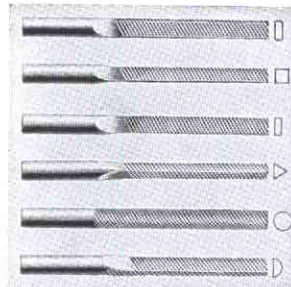
- 3434A — Complete set, 4" diam. $\frac{1}{2}$ " bore for 7" saws.
 343401 — Outer blade only, each.
 343402 — Inside cutter, each.
 3435A — Complete set, 5" diam. $\frac{5}{8}$ " bore for 8" saws.
 343501 — Outer blade only, each.
 343502 — Inside cutter, each.



DADO HEAD 6"

Special analysis steel, hand filed and set. Fits our 3018 and B-3018 saws. Set has 2 outer blades $\frac{1}{8}$ " thick, 2 inside cutters $\frac{1}{8}$ " thick, one $\frac{1}{4}$ " thick and one $\frac{1}{16}$ " thick.

- 3436A — Complete set, 6" diameter, $\frac{5}{8}$ " bore.
 343601 — Outside blade only, each.
 343602 — Inside cutter, $\frac{1}{8}$ " thick, each.
 343603 — Inside cutter, $\frac{1}{4}$ " thick, each.
 343604 — Inside cutter, $\frac{1}{16}$ " thick, each.



SCROLL SAW FILES

Crucible steel, correctly cut and tempered. Have $\frac{5}{16}$ " diam. shanks. Will fit our 16", 24" or 30" scroll saws. Use 0 cuts for metal and 00 cuts for wood.

0-Cut	00-Cut	File Shape
327003	327103	Pillar
327004	327104	Square
327006	327106	Crochet
327005	327105	3 Square
327001	327101	Round
327002	327102	Half Round
3270 — Set of six, 0-cut.		
3271 — Set of six, 00-cut.		

Blades are listed by the number used in ordering followed by the thickness and width in inches and then the number of points to the inch. After the listings an explanation is given of the use for which the blades are intended. Blades are available in either 5 or 6 inch lengths. State length wanted.

- 3481A .012 x .023 — 20 Pt. Pkg. of 6
 3485A .012 x .032 — 21 Pt. Pkg. of 6
 3486A .016 x .035 — 21 Pt. Pkg. of 6
 3483B .017 x .043 — 18 Pt. Pkg. of 6
 3487A .020 x .070 — 7 Pt. Pkg. of 6
 For celluloid, bakelite, plastics and fast sawing in wood.

- 3484A .020 x .110 — 10 Pt. Pkg. of 6
 3484B .020 x .110 — 15 Pt. Pkg. of 6
 3487B .020 x .070 — 15 Pt. Pkg. of 6
 For work up to 1 inch thick in metals, woods and other substances.

- 3482B .010 x .045 — 18 Pt. Pkg. of 6
 For fast cutting and easy turning in wood, veneer, and plywood.
 3483A .016 x .034 — 32 Pt. Pkg. of 6
 For thin metals, bone, pearl and hard substances.

- 3483C .016 x .054 — 20 Pt. Pkg. of 6
 For metals, bone, pearl and hard substances where an extremely clean cut is required as in inlay or marquetry work.

- 3487C .020 x .070 — 32 Pt. Pkg. of 6
 For sawing thin metals.

SABER SAW BLADES

- 3490A .028 x .187 — 10 Pt. Pkg. of 3
 For sawing wood or soft metal.



FLEXIBLE SANDING DISC

Flexible disc, 6 inches in diameter, for sanding curved or irregular surfaces. Sandpaper held by metal plate screwed into center of face. Use with 3073 Flexible Shaft on Page 35 or any spindle threaded $\frac{1}{2}$ —24.

3264—Flexible Sanding Disc, 6 x $\frac{1}{2}$ ".

FLEXIBLE DISC SANDPAPER

Extra quality cloth back sandpaper for 3264 Flexible Disc above. State grit wanted.

3263—Sandpaper. Fine, medium or coarse.



RIGID SANDING DISC

Sanding adds a finishing touch to any job. This is a carefully machined and well balanced sanding disc of the rigid face type, made from high quality die cast metal. Measures 6" in diameter. State whether $\frac{1}{2}$ inch 24 thread, $\frac{1}{2}$ inch unthreaded, or $\frac{5}{8}$ inch unthreaded bore is wanted.

3254—Sanding Disc.



RIGID DISC SANDPAPER

Use this package of sandpaper with 3254 Sanding Disc above. Set of 6 consists of two each fine, medium and coarse grit, all 6 inches in diameter. Attach to Sanding Disc with adhesive shown below.

3257—Sandpaper, package of six.



SANDING DISC ADHESIVE

An adhesive compound that makes it possible to fasten sandpaper sheets to sanding disc easily and firmly. Quickly removed when desired. Used in industrial plants. Stick approximately $1\frac{1}{4}$ " in diameter by 5" in length in cardboard tube with instructions for using.

3253—Adhesive Compound.



RUBBER DISC

A tough gray sponge rubber pad for use between 3254 Sanding Disc above and sheepskin pad, or between sanding disc and sandpaper. Acts as a cushion for smoother sanding. 6 inches in diameter and $\frac{1}{2}$ inch thick.

3255—Rubber Disc.



SHEEPSKIN BUFFER

Made of high quality sheepskin, this buffer is excellent for polishing automobile bodies and metal or wood surfaces. Sheepskin jacket slips over sanding disc and rubber pad shows above and fastens with a draw string.

3256—Sheepskin Buffer.



SCRATCH BRUSHES

A well made, firmly set scratch brush made from tempered wire. All have $\frac{1}{2}$ " arbor hole.

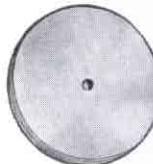
3224C—Scratch Brush,	4" Diam.,	Coarse.
3226C—Scratch Brush,	6" Diam.,	Coarse.
3228C—Scratch Brush,	8" Diam.,	Coarse.
3224F—Scratch Brush,	4" Diam.,	Fine.
3226F—Scratch Brush,	6" Diam.,	Fine.
3228F—Scratch Brush,	8" Diam.,	Fine.



CLOTH BUFFERS

These fine grade cloth buffing wheels consist of eighteen layers of bleached muslin securely sewed together. All have $\frac{1}{2}$ " arbor hole.

3204—4 inch diameter	3210—10 inch diameter
3206—6 inch diameter	3212—12 inch diameter
3208—8 inch diameter	



BUFFING COMPOUND

Buffing compound in 4 oz. cake to be used with buffing wheels above.

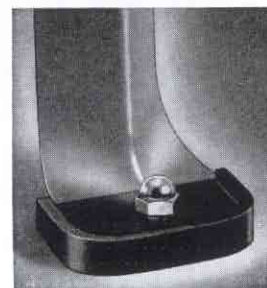
313004—Buffing Compound.



ADJUSTABLE ELECTRIC LIGHT

An adjustable light that may be attached to any machine. Extension arm has three links so reflector may be adjusted to any angle. Polished aluminum reflector intensifies light and makes it easy to follow outlines. Has push-key socket, 10 foot rubber cord and plug. Takes standard bulbs.

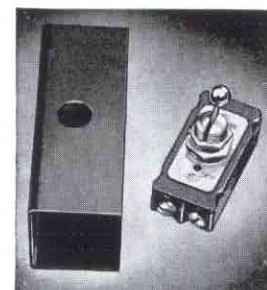
3765—Electric light, less bulb.



RUBBER FEET

For steel stands. Made of high grade rubber, of correct composition to stand hard usage and to absorb vibration. They help eliminate noise, reduce vibration and also prevent floors from being scratched. Molded with recess in bottom to take patented flat head bolts. Sold in set of four, with bolts and chrome plated acorn nuts.

301588—Set of Rubber Feet.



REMOTE CONTROL SWITCH

Double Pole Toggle Switch approved by Underwriters Laboratories. Positive in action, insuring complete current cut-off. Steel cover box protects switch. Quickly attached to stand in most convenient place. Brings control of tools in easy reach. Use with motor up to 1 HP 220 volts. Complete with instructions for installing.

301586—Remote Control Switch.



SANDING BELTS

Endless Belts for 3" Table Sander, 3" Portable Sander and 6" Production Sander. Tough fabric back for long, satisfactory service. Keep assortment on hand; you'll use them often. State grit wanted — $\frac{1}{2}$, 0, 00. Other grits on request.

3258—Belt 3" Wide 30" Long.

3259—Belt 6" Wide 44 $\frac{1}{2}$ " Long.

EMERY SANDING BELTS

For sanding aluminum, copper, brass and other metals. Fine, medium and coarse grits. Other grits on request. State grit wanted.

3261—Belt 3" Wide 30" Long.

3262—Belt 6" Wide 44 $\frac{1}{2}$ " Long.



SANDING DRUM

An expanding rubber sanding drum for sanding straight or irregular work. The rubber cushion gives better work with longer belt life. Quickly attached to flexible shaft or drill press with a $\frac{5}{8}$ "—24 thread spindle or adaptor. Use 325201 Sanding paper listed below.

3251—Sanding Drum. 2 $\frac{5}{8}$ " diam., 3" wide.



DRUM SANDPAPER

Sanding band fits over rubber drum pictured above. Use with flexible shaft, drill press, etc. Coarse, Medium or Fine. State grit wanted.

325201—Drum Sandpaper. 2 $\frac{5}{8}$ " diam. 3" wide.



GRINDING WHEELS

Coarse grit for general grinding work — fine grit for knives, etc.

3214C—4" diam. $\frac{1}{2}$ " face $\frac{1}{2}$ " arbor Coarse.

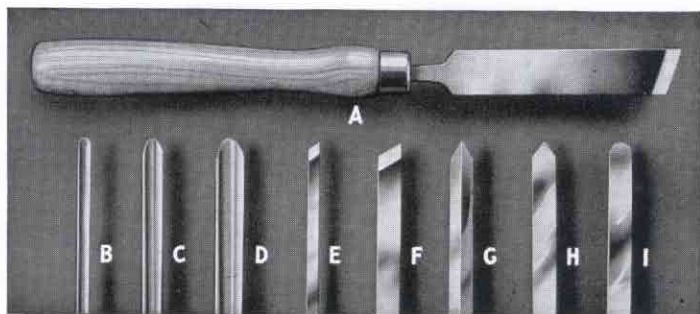
3216C—6" diam. $\frac{1}{2}$ " face $\frac{1}{2}$ " arbor Coarse.

3236C—6" diam. $\frac{3}{4}$ " face $\frac{1}{2}$ " arbor Coarse.

3214F—4" diam. $\frac{1}{2}$ " face $\frac{1}{2}$ " arbor Fine.

3216F—6" diam. $\frac{1}{2}$ " face $\frac{1}{2}$ " arbor Fine.

3236F—6" diam. $\frac{3}{4}$ " face $\frac{1}{2}$ " arbor Fine.



DURO WOOD TURNING CHISELS

HAND FORGED PRODUCTION CHISELS

These are chisels for heavy duty service where performance is most important. Their tapered blades are forged from the highest quality crucible steel, then hardened and tempered. The blades have an extra high polish and are sharpened to a keen cutting edge. The selected hardwood handles are of seasoned maple attractively finished. The overall length of handle and blade is approximately 18 inches.

320309 — (A)	Skew Chisel	1"	Each
320306 — (B)	Gouge	1 1/2"	Each
320310 — (C)	Gouge	2"	Each
320311 — (D)	Gouge	2 1/2"	Each
320302 — (F)	Skew Chisel	3"	Each
320312 — (G)	Parting Chisel	3 1/2"	Each
320308 — (H)	Spear Point Chisel	3 1/2"	Each
320307 — (I)	Round Nose Chisel	3 1/2"	Each

HAND FORGED STANDARD CHISELS

These chisels are made from the best quality crucible steel — carefully hardened and tempered to produce a keen cutting edge of long life. Blades are 4 inches in length, fully polished and sharpened ready for use. Fitted with thoroughly seasoned, varnished hardwood handles. Handles are 8 inches long, the most popular handle for general purpose wood turning. Be sure to state style blade wanted.

320009 — (A)	1" Regular Skew Chisel	Each
320006 — (B)	1 1/2" x 4" Gouge	Each
320003 — (C)	2" x 4" Gouge	Each
320004 — (D)	2 1/2" x 5" Gouge	Each
320001 — (E)	1 1/2" x 4" Skew Chisel	Each
320002 — (F)	1 1/2" x 4" Skew Chisel	Each
320005 — (G)	1 1/2" x 4" Parting Chisel	Each
320008 — (H)	1 1/2" Spear Point Chisel	Each
320007 — (I)	1 1/2" Round Nose Chisel	Each
3200A	Set of 5 chisels consisting of C, D, E, F, G	

SUPER-VALUE TURNING CHISELS

A good quality low priced chisel made from crucible steel, hardened and tempered. Four inch blades are satin finish, correctly sharpened, and fitted with 8-inch seasoned hardwood handles.

320103 — (C)	1 1/2" x 4" Gouge	Each
320104 — (D)	2" x 5" Gouge	Each
320101 — (E)	1 1/2" x 4" Skew Chisel	Each
320102 — (F)	1 1/2" x 4" Skew Chisel	Each
320105 — (G)	1 1/2" x 4" Parting Chisel	Each
3201A	Set of 5 Chisels above	

FACE PLATES

Wood block is screwed to face plate for turning hollow in bowls, etc. Heavy gray iron with face, hub and rim machined for true and balanced running.

- 305326 — 3 1/2" diam., 3/4" bore, 16 thread for 3053 Lathes, each.
- 305311 — 6" diam., 3/4" threaded or unthreaded bore for 3053 Lathes, each.
- 305641 — 3 1/2" diam., 1" bore, 16 thread for 3056 Lathe, each.
- 305618 — 6" diam., 1" bore, cross threaded for either end of spindle on 3056 Lathe, each.

BACK RESTS

Used to back up wood that has tendency to bend when being cut into by chisel. Steadies the work and makes finer work on very slender pieces possible. Rollers are adjusted by star hand wheels as work progresses. Fits regular tool rest holders shown below.

- 305344 — Back Rest for 3053 Lathes, each.
- 305644 — Back Rest for 3056 Lathe, each.

TOOL REST HOLDERS

Heavy gray iron, accurately machined and finished in corduroy gray baked enamel to match lathes.

- 305312 — Tool Rest Holder as illustrated for 3053 Lathes, each.

- 305607 — Tool Rest Holder, complete with hand wheel and bolt for 3056 Lathe, each.

TOOL RESTS

Heavy gray iron with carefully machined shanks to fit tool rest holders for specified lathes. Larger tool rests are convenient for turning long pieces such as table or chair legs and lamps. 3053 Tool Rests have 3/4-inch shanks; 3056 have 1-inch shanks. May be used in any holders having specified bore.

- 305313 — 12" Rest for 3053 Lathes, Each.
- 305324 — 18" Rest for 3053 Lathes, Each.
- 305605 — 4" Rest for 3056 Lathe, Each.
- 305604 — 12" Rest for 3056 Lathe, Each.
- 305606 — 24" Rest for 3056 Lathe, Each.

SCREW CENTERS

Indispensable in turning small pieces. Use in any lathe with specified Morse tapers. Accurately machined and ground. Screw is removable and may be replaced.

- 305327 — Screw Center, No. 1 Morse Taper
- 305660 — Screw Center, No. 2 Morse Taper

CUP CENTERS

Accurately machined and ground; with removable points that can be replaced.

- 305317 — Cup Center, No. 1 Morse Taper Each
- 305626 — Cup Center, No. 2 Morse Taper Each

SPUR CENTERS

Accurately ground to fit Morse Taper. Heat treated steel. Machined spurs and removable points. Fit any lathes with specified Morse Tapers.

- 305307 — Spur Center, No. 1 Morse Taper Each
- 305639 — Spur Center, No. 2 Morse Taper Each



MULTI SPUR BITS

Fine quality tool steel, tempered and polished. Drill straighter, smoother and faster, and will not clog. Can be used to drill half holes in edge of work, large hole over small hole and many other kinds of work ordinary bits will not do. Easily resharpened.

359801	3/8"	ea.
359802	1/2"	ea.
359803	3/4"	ea.
359804	1"	ea.
359805	1 1/4"	ea.
359806	1 1/2"	ea.
359807	1 3/4"	ea.
359808	2"	ea.

HOLLOW CHISELS

Used in drill press with hollow chisel bits, mortising head and chuck listed at right. Finest quality tool steel, hardened and tempered. These chisels will hold their edge over long periods of hard usage. Designed to cut absolutely square corners for mortise joints. Slots on side of chisel for ejection of chips.

Article Number	Size In.	
359601	1/4"	each
359603	3/8"	each
359604	1/2"	each

HOLLOW CHISEL BITS

This bit revolves inside of the hollow chisel of corresponding size shown at left for making accurate square mortise joints. Correctly hardened, tempered and ground to give proper clearance and long life. Used in drill press with mortising head and chuck. Adjust to allow 1/16" clearance between chisel and bit.

Article Number	Size In.	
359701	1/4"	each
359703	3/8"	each
359704	1/2"	each

MORTISING HEAD

The mortising head and special chuck included are attached to the drill press quill and spindle respectively after removing Jacobs Chuck. They hold the hollow chisels and chisel bits shown at the left.

- L308063 — Mortising Head and chuck for R-3080 and R-3081 Drill Presses.

- K308063 — For B-3086, B-3087 and E-3083 Drill Presses.
- A308063 — For B-3082 Drill Press.

MORTISING HOLD-DOWNS

To insure straight clear mortising cuts and to prevent the wood from lifting when chisel is raised from the work, use the mortising hold down and guide as illustrated above. Finished in baked gray enamel to match tools.

- 308165 — Hold Down for R-3080 and R-3081 Drill Presses.

- 308064 — Hold Down for B-3086, B-3087, B-3082 and E-3083 Drill Presses.

GUARD and FENCE

Guard and fence for table of No. 3080 and 3081 Drill Presses when they are used as shaper. Extremely handy when making straight cuts. The faces of the fence are hard wood. One face is adjusted forward and backward by a ball crank with micrometer accuracy and can be firmly locked in position. Made of heavy gray iron with corduroy gray enamel finish.

- 309103 — Guard and Fence Assembly

SHAPER ADAPTORS

When using No. R-3080 and R-3081 Drill Presses for shaping, the Jacobs Chuck is removed and these adaptors are fitted on spindle to hold 3/8" and 1/2" bore shaper cutters. For straight cuts use Guard and Fence shown at left. See Page 49 for complete line of chrome vanadium steel shaper cutters.

- L308068 — Adaptor to fit 3/8 inch bore shaper cutters
- L308067 — Adaptor to fit 1/2 inch bore shaper cutters

DURO COMPOUND RESTS

Metal turning with micrometer accuracy may be done on your Duro Lathe with this compound slide rest. The V way base is milled to match V way on the lathe bed giving positive precision alignment at all positions along the bed. The swivel base is graduated in degrees and may be locked at any angle. Ball crank handles are graduated to read in thousandths of an inch with one turn of handle producing 1/10 inch travel. Feed screws are covered to protect them from chips and dirt. The longitudinal feed is 6 1/2" and the transverse feed 7". Ways are machined to 60° and gibbed for take up. Tool holder and wrench included. For tool bits see bottom of page. This is strictly a quality tool built to rigid specifications that is rugged, durable, and accurate.

305357 — Compound Slide Rest for B3053... Ship. Wt. 20 lbs.

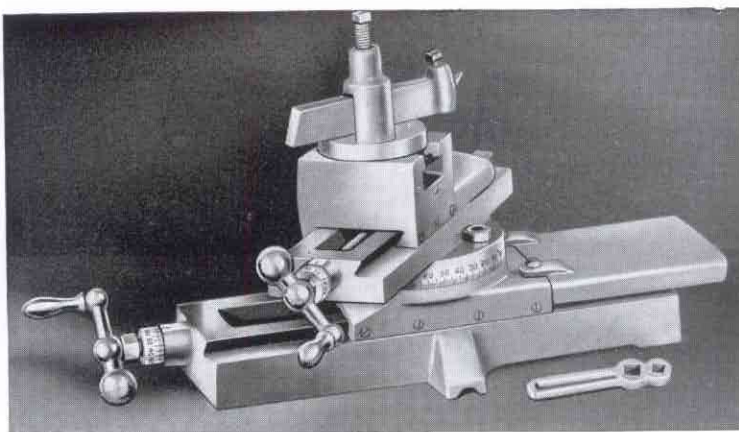
305657 — Compound Slide Rest for 3056... Ship. Wt. 20 lbs.

STEADY RESTS

A necessary accessory for the metal worker turning long pieces. Properly set up it will prevent whip or springing and enable the operator to turn long thin pieces. It is made of high quality gray iron, accurately machined with three adjustable supports that will take work up to 2 1/2" in diam. Clamp block and bolt for fastening to lathe bed included.

305323 — Steady Rest for B3053 Lathe

305642 — Steady Rest for 3056 Lathe



FOUR JAW CHUCKS

Independent 4 Jaw Chuck of fine material and workmanship. Jaws are hardened steel and reversible. Each jaw operates independently so that it is possible to grip irregular work. Wrench and back plate included.

305358 — 4" size. For B3053 or any lathe with 3/4"-16 thread spindle.

305658 — 4" size. For 3056 or any lathe with 1"-16 thread spindle.

305663 — 6" size. For 3056 or any lathe with 1"-16 thread spindle.



60° CENTERS

The 60 degree center is used in tailstock of lathe when lathe is used for metal cutting. Point of center engages center-punched hole in work. Accurately machined and ground. Fits any lathe with specified Morse tapers.

305325 — 60° center with No. 1 Morse Taper.

305656 — 60° center with No. 2 Morse Taper.



CHUCK CENTERS

The 1/2 inch chuck is screwed onto the center. The center has a Morse Taper that can be fitted into either the headstock or tailstock of a lathe having the corresponding Morse Taper. The spindle is threaded 1/2"-24.

3146D — 1/2" Chuck with No. 1 Morse Taper.

3146C — 1/2" Chuck with No. 2 Morse Taper.



WHEEL ARBORS

For mounting grinding wheel, scratch brush or buffing wheel to run from headstock of lathe or any tool with corresponding Morse Taper. Arbor takes wheel 1/2" up to 1" thick. With flanges and nuts to hold wheel.

305370 — Wheel Arbor for No. 1 Morse Taper.

305670 — Wheel Arbor for No. 2 Morse Taper.

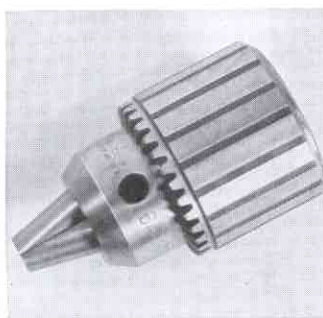


CENTER FOR JACOBS CHUCK

To adapt 1/2" Jacobs chuck as supplied with our drill presses to lathe work. One end has No. 33 taper to fit taper in chuck. Other end has either No. 1 or 2 Morse Taper to fit lathes with corresponding tapers.

3148B — For No. 1 Morse Taper.

3148C — For No. 2 Morse Taper.



JACOBS CHUCKS

Jacob Chucks are recognized and used as standard equipment in thousands of factories and shops. They are known the world over for accuracy, balance and the ultimate in performance. Jacobs Chucks are supplied on Duro drill presses, electric drills and with adaptors or centers can be used in the head or tailstock of lathes for drilling, reaming and other operations.



LATHE DOG

For driving stock up to 3/4 inch diameter. Drop forged from high grade steel. Correctly shaped for great strength and toughness. Lathe Dog grips work firmly and transmits maximum power. Bent tail fits in face plate slot. Natural forged finish.

305661 — Lathe Dog, 3/4 inch



HOLLOW HEAD SET SCREW WRENCHES

Either end fits hollow head set screw of size shown.

ST33-1/4 — Fits 1/4" set screw

ST33-5/16 — Fits 5/16" set screw

ST33-3/8 — Fits 3/8" set screw

ST33-1/2 — Fits 1/2" set screw

TOOL BITS

High speed steel, correctly heat treated to hold a lasting cutting edge. Stock is 3/16" square by approximately 1 5/8" long. Designed to fit tool holder of compound rests listed above. Each bit is sharpened, ready for use. The complete set consists of round nose turning tool; right and left hand turning tool; right and left hand facing tool and threading tool.

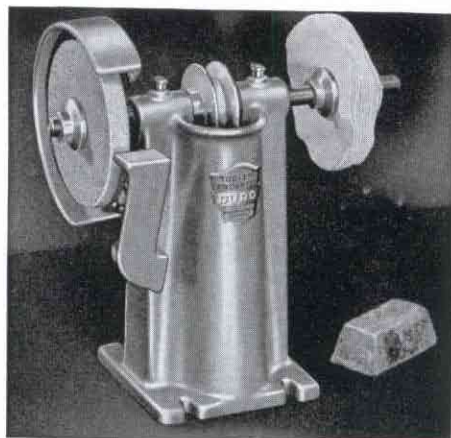
305662 — Set of six Bits



DP34B	0-1/2" capacity	5/8"-16 thread
DP33B	1/2-1 1/2"	5/8"-16 thread
DP3B	1 1/2-3 1/2"	5/8"-16 thread
DP6A33	0-1 1/2"	No. 33 taper
DP3A33	1 1/2-3 1/2"	No. 33 taper
1A	0-1 1/2"	No. 1 taper
7B	0-1 1/2"	1 1/2"-20 thread
30B	0-3 1/2"	1 1/2"-20 thread
32B	0-3 1/2"	1 1/2"-20 thread
34B	0-3 1/2"	5/8"-16 thread
3B	1 1/2-3 1/2"	5/8"-16 thread
36B	3 1/2-5 1/2"	5/8"-16 thread

REPLACEMENT KEYS FOR ABOVE CHUCKS

#3	series Chuck Key, fits DP34B, DP3B, DP6A33, DP3A33, 34B, 3B.
#32	series Chuck Key, fits DP33B, 32B.
#1A	series Chuck Key, fits 1A
#4	series Chuck Key, fits 36B
#7	series Chuck Key, fits 7B
#30	series Chuck Key, fits 30B



HEAVY DUTY POLISHING HEAD

Modern design and safety construction place this Polishing Head in a class by itself. It is used for a wide variety of operations, including grinding, buffing, and polishing. A good polishing head such as this will be found one of the handiest and most frequently used pieces of equipment in your shop. The heavy gray iron base gives rigidity and also guards the belt. Can be driven from in back or below. The $\frac{1}{2}$ " steel shaft has right hand threads on one end, left hand threads on the other, 24 threads to the inch. It runs on self-lubricating bronze bearings with oil cups. Has $2\frac{1}{4}$ " V Pulley.

3045A — As pictured with $\frac{1}{2}$ "x4" grind wheel buff, polish compound. Ship. Wt. 9 lbs.
3045B — Polishing Head less grinding wheel, buff and polishing compound. Ship. Wt. 7 lbs.



FOUR SPEED JACK SHAFT

Increase the usefulness of any tool that requires a wide range of speed, by using the Duro Jack Shaft. The frame is made of extra heavy gray iron, drilled to fit same space as $\frac{1}{3}$ H.P. motor. Ground steel shaft runs in bronze bushed bearings fitted with oil cups. The bearings have a vertical and lateral adjustment to insure proper belt tension. Equipped with one $2\frac{1}{2}$ inch end pulley and one 4 inch 4-step pulley.

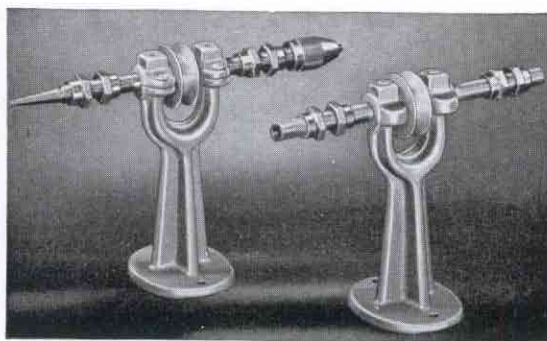
3110 — Jack Shaft. Shipping Weight 14 lbs.



SHAFT HANGERS

The base and arm are made of high quality gray iron. The bearing is made of steel with two large phosphor bronze bearings and broached after assembly to assure perfect alignment. Equipped with oil cups. A reservoir provided to hold an ample supply of oil assures perfect lubrication. Provision is made for both horizontal and vertical adjustment. Sufficient vertical adjustment is provided to permit lining up with $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$ H.P. motor shafts for direct drive without shimming.

3120 — Shaft Hanger, $\frac{1}{2}$ inch bore.
3121 — Shaft Hanger, $\frac{3}{4}$ inch bore.



POLISHING HEADS

These are sturdy well built polishing heads suitable for grinding, polishing, buffing, drilling, removing paint and many other operations. A circular saw and table may be added to No. 3130B to make a table saw for small work. The bases are made of high grade iron. The bearings are provided with oil holes and are split so that they can be adjusted. $\frac{1}{2}$ "-24 thread steel spindle has $\frac{1}{4}$ " three jaw self-tightening chuck on one end and two flange nuts on each end for holding grinding wheels, scratch brushes, saw wheels. End of the spindle opposite the chuck is tapered to facilitate attaching buffing wheels, etc. The V pulley is $1\frac{3}{4}$ " in diameter and takes either $\frac{3}{8}$ or $\frac{1}{2}$ " V belts.

3130B — Polishing Head. Complete as pictured above at left. Shipping Weight 6 lbs.

3130G — Polishing Head. Similar to No. 3130B but with plain bearings, one set of wheel flanges and without chuck. Shipping Weight 5 lbs.

3130H — Polishing Head. As pictured above at right. Similar to 3130G in construction. Has two sets of wheel flanges. Spindle is not tapered. Ship. Wt. 5 lbs.



STEEL SHAFTING

High grade ground and polished steel for use as line shafting. Held to within $2/1000$ inch limits. Other lengths furnished on application. Add $1\frac{1}{2}$ cents per inch for $\frac{1}{2}$ " and $2\frac{1}{2}$ cents per inch for $\frac{3}{4}$ ".

311702 — Steel Shafting, Size $\frac{1}{2}$ "x24 inches.

311705 — Steel Shafting, Size $\frac{3}{4}$ "x48 inches.

RIGID COUPLINGS

For coupling two shafts together. Machined from solid bar steel and cadmium plated to prevent rust.

311801 — Rigid Coupling, $\frac{1}{2}$ inch bore.

311802 — Rigid Coupling, $\frac{3}{4}$ inch bore.

SHAFT COLLARS

For preventing end play in line shafts. Machined from solid bar steel and cadmium plated.

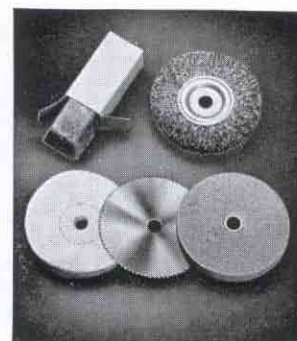
311901 — Shaft Collar, $\frac{1}{2}$ inch bore.

311902 — Shaft Collar, $\frac{3}{4}$ inch bore.

HEAVY DUTY SHAFT HANGER

A very sturdy and practical line shaft hanger with one open side allowing the complete assembly of belts and pulleys before placing in the hangers. Specially designed for close quarters. Shafting does not need to be fed in from one end as in other types. Self-aligning with vertical adjustment between 4 inches and 5 inches in height. Fasten to bench through elongated holes for horizontal adjustment. Bearings equipped with two self-lubricating bronze bushings with oil cup and oil well to renew lubrication. For $\frac{3}{4}$ inch shafting only. Ship. Wt. 5 lbs.

3122 — Heavy Duty Shaft Hanger

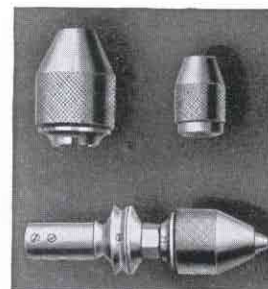


ACCESSORY KIT

This Accessory Kit is used with Polishing Heads at the left, with motor arbors or with flexible shafts. Outfit consists of 4" saw with $\frac{1}{2}$ " bore. $\frac{1}{2}$ "x4" grinding wheel, 4" scratch brush, 4" cloth buffer and cake of polishing compound.

3130E — Accessory Kit complete.

3130D — Stamped Steel Table, 8"x8", with mitre gauge. Fits on 3130B Polishing Head to make table saw for small work.



CHUCKS

High grade 3-jaw self-tightening chucks with hardened jaws. For $\frac{1}{2}$ "-24 thread spindle. Use on arbors, flexible shafts or polishing heads.

3140A — Chuck, $\frac{1}{4}$ inch.

3146A — Chuck, $\frac{1}{2}$ inch.

ARBORS

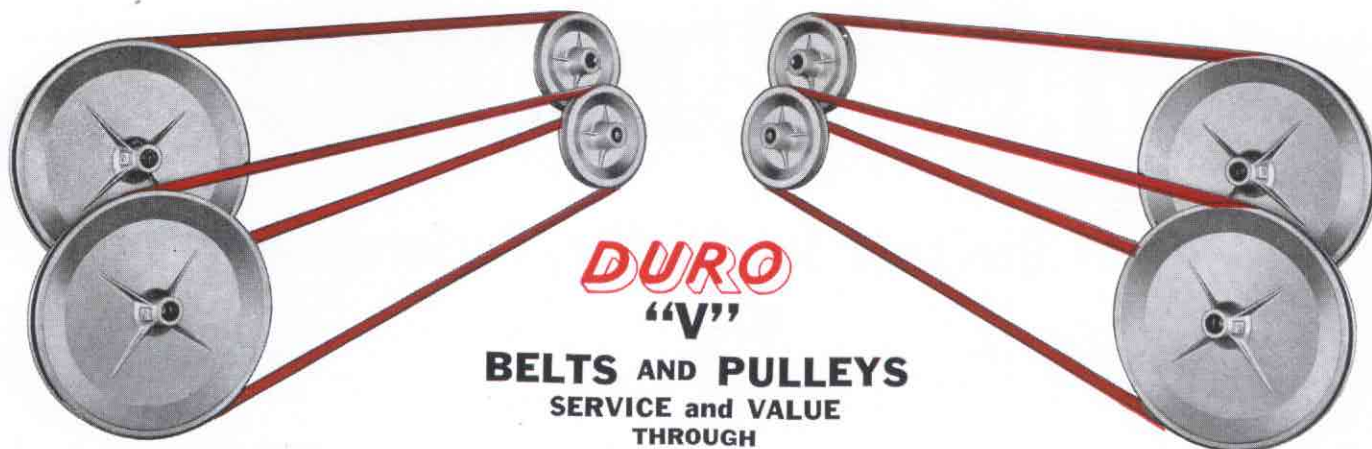
Fits any $\frac{1}{2}$ " shaft. Takes $\frac{1}{2}$ " bore grinding, scratch, buffing, polishing wheels. Has single groove pulley. Equipped with same chucks listed above.

3150B — Arbor with $\frac{1}{4}$ " chuck.

3150F — Arbor with $\frac{1}{2}$ " chuck.

3150A — Arbor less chuck.





DURO "V" BELTS AND PULLEYS

SERVICE and VALUE THROUGH

NEW DESIGN

NEW ENGINEERING

NEW EFFICIENCY

NEW PERFORMANCE



The new Duro Red and Black V-Belts are an outstanding achievement in scientific belt construction. Not one or two but many carefully engineered and tested improvements are incorporated to make these belts a far superior product.

Research has proved that heat generated by internal friction is a primary cause of belt trouble. In the illustration at the left, each strand is composed of individual fibres each of which has been insulated in latex. These fibres are twisted into four heavy strands, each of which is also insulated in latex. The strands are then set in a section of very soft rubber having favorable heat characteristics, to cushion the strands. These construction features in the cord section combine to prevent deterioration due to frictional heat.

The individual strands, before being treated and assembled are processed to remove stretch. Instead of straining them which lowers their strength, an improved kneading process normalizes them, reducing stretch to an absolute minimum without affecting the cord strength. Note that the cord section in the illustration is placed lower than usual. It is this section which actually transmits the power. By placing this section at the pitch line in the belt it is relieved of internal strain.

Below the cord section is a section of black rubber called the base rubber made of

firm consistency to seat and support the cord section without strain. Immediately above the cord section is the top rubber which is soft for maximum elasticity when belt is flexed. Above the top rubber is the rubber back also very soft to increase flexibility.

Two fabric wrappers impregnated with red rubber completely surround the body of the belt to give better grip, to protect against oil or foreign matter and to give additional wear. Note that the fabric seam occurs between the top rubber and the back rubber to prevent splice opening. Belts are vulcanized in steel molds to exact cross section and length dimensions. In every detail of construction extra quality is built into the Duro Red and Black V-Belt.

Duro V-Pulleys are made superior in quality and greater in accuracy. Value counts. That is why Duro is one of the World's largest manufacturers of V-groove pulleys. The metal is of our own specification. Breakdown tests have shown it has greater strength and gives longer service than ordinary die cast metal. Automatic casting machines, electrically controlled, exert tremendous pressure to produce uniform density and a close grain. The pulley is diamond bored for extra accuracy. Use Duro V-Pulleys for long satisfactory service.



Belt Number	Size In.	Outside Circum. Inches	Inside Circum. Inches	Belt Number	Size In.	Outside Circum. Inches	Inside Circum. Inches
360120	3/8	20	18 1/8	360238	1 1/2	38	36
360121	3/8	21	19 1/8	360239	1 1/2	39	37
360122	3/8	22	20 1/8	360240	1 1/2	40	38
360123	3/8	23	21 1/8	360241	1 1/2	41	39
360124	3/8	24	22 1/8	360242	1 1/2	42	39 1/2
360125	3/8	25	23 1/8	360243	1 1/2	43	40 1/2
360127	3/8	27	25 1/8	360244	1 1/2	44	42
360131	3/8	31	29 1/8	360245	1 1/2	45	42 1/2
360134	3/8	34	32 1/8	360246	1 1/2	46	43 1/2
360135	3/8	35	33 1/8	360247	1 1/2	47	45 1/2
360136	3/8	36	34 1/8	360248	1 1/2	48	46
360137	3/8	37	35 1/8	360249	1 1/2	49	47
360139	3/8	39	37 1/8	360250	1 1/2	50	47 1/2
360143	3/8	43	41 1/8	360251	1 1/2	51	48 1/2
360160	3/8	60	58 1/8	360252	1 1/2	52	49 1/2
360220	1 1/2	20	18 1/8	360253	1 1/2	53	51
360222	1 1/2	22	20 1/8	360254	1 1/2	54	52
360223	1 1/2	23	21 1/8	360256	1 1/2	56	53 1/2
360224	1 1/2	24	21 3/4	360258	1 1/2	58	56
360225	1 1/2	25	23 1/8	360260	1 1/2	60	57 1/2
360226	1 1/2	26	24 1/8	360262	1 1/2	62	60
360227	1 1/2	27	25 1/8	360264	1 1/2	64	62
360228	1 1/2	28	26 1/8	360265	1 1/2	65	63
360229	1 1/2	29	27 1/4	360266	1 1/2	66	64
360230	1 1/2	30	27 3/4	360268	1 1/2	68	66 1/2
360231	1 1/2	31	28 1/8	360270	1 1/2	70	68
360232	1 1/2	32	30 1/8	360272	1 1/2	72	69 1/2
360233	1 1/2	33	31	360274	1 1/2	74	72
360234	1 1/2	34	32	360277	1 1/2	77	75
360235	1 1/2	35	33	360282	1 1/2	82	80
360236	1 1/2	36	34	360287	1 1/2	87	85
360237	1 1/2	37	35	360292	1 1/2	92	90

Pulley Number	Diam. Inches	Bore Inches	Pulley Number	Diam. Inches	Bore Inches
340150	1 1/2	1 1/2, 3/4	340400	4	1 1/2, 3/4, 3/8
340175	1 3/4	1 3/4, 3/4	340500	5	1 3/4, 3/4, 3/8
340200	2	2, 3/4, 3/8	340600	6	2, 3/4, 3/8
340225	2 1/4	2 1/4, 3/4, 3/8	340650	6 1/2	2 1/4, 3/4, 3/8
340250	2 1/2	2 1/2, 3/4, 3/8	340800	8	2 1/2, 3/4, 3/8
340275	2 3/4	2 3/4, 3/4, 3/8	341000	10	2 3/4, 3/4, 3/8
340300	3	3, 3/4, 3/8	341200	12	3, 3/4, 3/8
340325	3 1/4	3 1/4, 3/4, 3/8			

All "V" Pulleys take 1/2 inch belts. Sizes up to 6 1/2 inch also take 3/8 inch belts

2-STEP PULLEYS

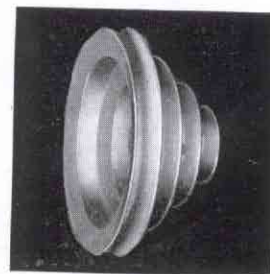
Take 3/8 or 1/2" V Belts. Diameters are 2 and 2 1/2". Same fine construction as single groove pulleys above. State bore wanted.

341500 — 2-Step Pulley, 1/2 or 3/8 inch bore.

4-STEP PULLEYS

For use with either 3/8 or 1/2" V belts. Duro quality construction with extra ribbing inside for added strength. State bore wanted.

Number	Diameter Inches	Bore Inches
341505	4, 3 1/4, 2 1/2, 1 3/4	1/2, 3/4, 3/8
341506	5, 3 3/4, 2 3/4, 1 3/4	1/2, 3/4, 3/8
305331	For 3053 Lathes	1/2, 3/4, 3/8
305617	For 3056 Lathes	1/2, 3/4, 3/8
300715	For 3007 Scroll Saw	1/2, 3/4, 3/8
300716	For Scroll Saw Motor	1/2, 3/4, 3/8

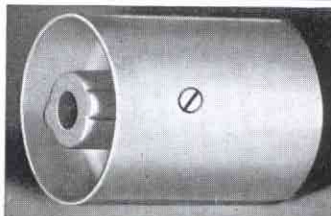


FLEXIBLE COUPLING

For connecting shafts that have a slight degree of misalignment. Rubber cushion gives flexibility yet transmits full power. Coupling with 1" hub is 1 1/8" outside diameter and 1 1/4" in length. Coupling with 1 1/8" hub is 2 1/8" outside diameter and 1 1/2" in length. Listed below

with same bore at each end and also with combination bores.

341800 Coupling, 1" hub	1/2" or 3/8" bore. State bore.
341802 Coupling, 1 1/8" hub	1/2, 3/8 or 3/4" bore. State bore.
341812 Coupling, 1" hub	Combination bore, 1/2 x 3/8
341813 Coupling, 1 1/8" hub	Combination bore, 1/2 x 3/8
341814 Coupling, 1 1/8" hub	Combination bore, 1/2 x 3/4
341815 Coupling, 1 1/8" hub	Combination bore, 3/8 x 3/4



CROWN FACE PULLEYS

Number	Dia. In.	Wid. In.	Bore In.
341600	1 1/2	1 3/4	1/2, 3/8
341602	2	2	1/2, 3/8, 3/4
341603	2	3	1/2, 3/8, 3/4
341605	2 1/2	2 1/2	1/2, 3/8, 3/4
341606	2 1/2	3	1/2, 3/8, 3/4
341608	3	1 3/4	1/2, 3/8, 3/4
341611	3	3	1/2, 3/8, 3/4

FLANGED PULLEY

Specially designed for driving machines direct from motor or lineshaft with flat belt only. Special analysis die cast metal, balanced to run true at all speeds. Large flange to hold belt in place. Set screw for locking to shaft. State bore.



Number	Diam. Inches	Face Inches	Bore Inches
341700	1 1/2	1 1/2	1/2, 3/8
341702	2	1 1/4	1/2, 3/8, 3/4
341704	2 1/2	1 3/4	1/2, 3/8, 3/4
341706	2 3/4	1 3/4	1/2, 3/8, 3/4
341708	3	1 3/4	1/2, 3/8, 3/4

DURO QUALITY MOTORS

Designed for Quality, Performance and Value

Duro, with the cooperation of one of the large electric motor manufacturers, now presents a line of motors especially adapted for use on woodworking machinery, incorporating the latest engineering advancements. These are the highest quality motors that can be purchased and have been selected and manufactured to give maximum performance. They are backed by Duro Metal Products Company as well as the motor manufacturer with a standard guarantee of service, workmanship and material.

Ratings are well below the required 40° C. set up by the National Electrical Manufacturers Assoc. They will give dependable operation over a long period without attention except for oiling of sleeve bearings every 2 months and ball bearings every 4 months.

Ample space between the windings and frame allows passage of a large volume of air which ensures cool operation and long life. The windings are impregnated with insulating varnish and baked for permanence. All motor switches are of two pole construction that breaks both sides of the line making it impossible to receive a shock. These should not be confused with switches which allow a live line to the motor that in damp weather often transmits shock to the operator.

The shafts are of high chrome steel ground to a bright finish. Baked black enamel on the center band contrasting with the baked gray corduroy enamel on the end covers give them a handsome appearance.



**1/4 H. P.
SLEEVE
BEARING**

This motor has single end shaft and is split phase start, induction run operating at 1750 R.P.M. The rotating member is balanced statically and dynamically. Perfect alignment of rotor is obtained by diamond boring the phosphor bronze bearings. Ample wool yarn is placed in oil reservoir for retention of oil and the air intake and exhaust are designed to prevent falling objects entering the motor. The large shaft through the motor is brought down to 1/2" diameter for pulley. From the base to the center line of shaft is 3 1/2". An eight foot rubber covered cord with plug is included. For 110 volts, 60 cycle, A.C. Shipping Weight 30 lbs.

3700-SES — 1/4 H.P. Single End Shaft, Sleeve Bearings.



**1/2 H. P.
HEAVY
DUTY**

A real 1/2 H.P. Motor operating at 1750 R.P.M. built to withstand punishment and deliver the work. Will start any job up to four and one-half times its rated horsepower. Built with repulsion-induction windings, oversize electric laminations and a surplus of active copper. Cool in operation. Shafts are 3/4" diam. with keyway. Height from base to center of shaft 4". Rubber covered cord and plug, double pole switch. For 110 or 220 volts, 60 cycle, A.C. Shipping weight.....52 lbs.

3720-SES — 1/2 H.P. Single End Shaft, Sleeve Bearings
3720-DES — 1/2 H.P. Double End Shaft, Sleeve Bearings
3720-DEB — 1/2 H.P. Double End Shaft, Ball Bearings



**1/3 H. P.
HEAVY
DUTY**

These 1750 R.P.M. 1/3 H.P. motors are furnished with either ball bearings or sleeve bearings. Ball Bearing motors can be mounted vertically with either end up or horizontally. Sleeve Bearing motors are for horizontal installation. The rotors are copper welded to withstand heavy loads and the winding is the split phase start-induction run type, well insulated and oven-baked. The 1/2" shafts are 2" long on each end with machined flat for set screw. Height from base to center of shaft is 3 1/2". With 8 ft. rubber covered cord and plug. For 110 volt, 60 cycle, A.C. Shipping Weight 36 lbs.

3710-DES — 1/3 H.P. Double End Shaft, Sleeve Bearings.
3710-DEB — 1/3 H.P. Double End Shaft, Ball Bearings.



**1 H. P.
HEAVY
DUTY**

A heavy duty Capacitor Type motor that runs at 3450 R.P.M. The capacitor motor does not require brushes or starting windings, with the result that there is no radio interference or excessive load on the line when started. The watt input is remarkably low considering the maximum power developed — 2 H.P. The one piece cast aluminum rotor statically and dynamically balanced is the latest type construction. Heavy 3/4" double end shaft. With heavy rubber covered cord. For 110-220 volt, 60 cycle, A.C. current.....Ship. wt. 45 lbs.

3740-DEB — 1 H.P. Double End Shaft, Ball Bearings.

We reserve the right to make improvements in design or price changes without notice.

POWER TOOL DIVISION

DURO METAL PRODUCTS COMPANY

Printed in U. S. A.

2649-61 NORTH KILDARE AVENUE
CHICAGO, ILLINOIS

NEW YORK SALES OFFICE, 258 BROADWAY

DURO TOOLS OF PROGRESS

PRICE LIST

FOR CATALOG E-41-A

EFFECTIVE SEPT. 30, 1940

NOTE

ON ALL ORDERS FOR LESS THAN \$1.00 LIST PRICE THERE WILL BE A MINIMUM INVOICE CHARGE OF \$1.00

DURO METAL PRODUCTS COMPANY

2651 N. KILDARE AVE., CHICAGO, ILL.

Catalog Number	Description	Catalog Page	List Price
1A	Jacobs Chuck — 0- $\frac{1}{4}$ " capacity — No. 1 taper.....	53	\$4.50
3B	Jacobs Chuck — $\frac{1}{4}$ "- $\frac{1}{2}$ " capacity — $\frac{1}{4}$ "-16 thread.....	53	9.00
7B	Jacobs Chuck — 0- $\frac{1}{4}$ " capacity — $\frac{1}{4}$ "-20 thread.....	53	4.50
30B	Jacobs Chuck — 0- $\frac{1}{4}$ " capacity — $\frac{1}{4}$ "-20 thread.....	53	5.50
32B	Jacobs Chuck — 0- $\frac{1}{4}$ " capacity — $\frac{1}{4}$ "-20 thread.....	53	5.50
34B	Jacobs Chuck — 0- $\frac{1}{4}$ " capacity — $\frac{1}{4}$ "-16 thread.....	53	7.50
36B	Jacobs Chuck — $\frac{1}{4}$ "- $\frac{1}{2}$ " capacity — $\frac{1}{4}$ "-16 thread.....	53	12.00
DP3A33	Jacobs Chuck — $\frac{1}{4}$ "- $\frac{1}{2}$ " capacity — No. 33 taper.....	53	9.75
DP6A33	Jacobs Chuck — 0- $\frac{1}{4}$ " capacity — No. 33 taper.....	53	7.50
DP3B	Jacobs Chuck — $\frac{1}{4}$ "- $\frac{1}{2}$ " capacity — $\frac{1}{4}$ "-16 thread.....	53	9.00
DP33B	Jacobs Chuck — $\frac{1}{4}$ "- $\frac{1}{2}$ " capacity — $\frac{1}{4}$ "-16 thread.....	53	5.55
DP34B	Jacobs Chuck — 0- $\frac{1}{4}$ " capacity — $\frac{1}{4}$ "-16 thread.....	53	7.50
#1A	Series Chuck Key.....	53	.45
#3	Series Chuck Key.....	53	.70
#4	Series Chuck Key.....	53	1.00
#7	Series Chuck Key.....	53	.45
#30	Series Chuck Key.....	53	.55
#32	Series Chuck Key.....	53	.55
ST33- $\frac{1}{4}$	Hollow Head Set Screw Wrench.....	53	.06
ST33- $\frac{1}{2}$	Hollow Head Set Screw Wrench.....	53	.06
ST33- $\frac{3}{4}$	Hollow Head Set Screw Wrench.....	53	.10
ST33-1	Hollow Head Set Screw Wrench.....	53	.12

Catalog Number	Description	Catalog Page	List Price
D3000	Super Value 12" Jig Saw.....	34	\$7.85
300025	Air Pump only for 12" Jig Saws.....	33	.50
B3002	Jig Saw 15".....	34	12.95
C3003	Scroll Saw 16".....	33	24.95
B300315	Air Pump only for 16" and 24" Scroll Saws.....	33	.50
A3005	Scroll Saw 24".....	32	29.95
300585	Steel Stand for A3005.....	32	7.95
B3007	Scroll Saw 30", Belt & Pulley.....	30-31	49.85
300715	4-Step Pulley for B3007.....	55	1.37
300716	4-Step Motor Pulley for B3007.....	55	1.10
A300785	Stand with 2" Wood Top.....	30-31	18.95
B300790	Belt and Pulley Guard for B3007.....	30-31	6.95

Catalog Number	Description	Catalog Page	List Price
A3011	Super Value Table Saw 8".....	9	\$11.95
E3012	Super Value Table Saw 8".....	8-9	29.95
E301235	Steel Stand.....	8	7.95
301221	Mitre Gauge.....	37-38	1.95
A3015	Table Saw 8" — 20" x 16" Table.....	6-7	42.50
B3015	Table Saw 8" — 23" x 18" Table.....	6-7	45.85
A301553	Extension Table for A3015.....	6-7	5.85
B301553	Extension Table for B3015.....	6-7	5.85
301557	Anti-Kick Back.....	6-7	1.00
301558	Guard and Splitter.....	6-7	2.95
301575	Sub-Base for Table Saw.....	10	3.50
301585	Steel Stand.....	6-7	7.45
301586	Remote Control Switch.....	51	3.45
301588	Rubber Feet — Set of Four.....	51	1.00
301590	Belt and Pulley Guard.....	6-7	6.75
301595	Deluxe Mitre Gauge.....	6-7	4.95
3018	Tilting Arbor Saw 10", Steel Extension.....		
	F. O. B. Factory.....	4-5	101.25
B3018	Tilting Arbor Saw 10", Cast Iron Extensions.....		
	F. O. B. Factory.....	4-5	113.90
C3020	Band Saw 12 $\frac{1}{2}$ ".....	24-25	42.50
C302007	Rip Fence and Guide Bar.....	24-25	2.25
C302090	Belt and Pulley Guard.....	24-25	7.75
A3022	Band Saw 15".....	23	69.50
B3022	Band Saw 15" with Slow Speed Attachment.....	23	Write for quotation
302240	Band Saw Base.....	23	19.85
B3023	Band Saw 16".....	20-21	136.50
C3023	Super Value 16" Band Saw.....	22	99.50
D3023	Band Saw 16" with Slow Speed Attachment.....	20-21	Write for quotation
E3023	Super Value 16" Band Saw with Slow Speed Attachment.....	22	Write for quotation
302349	Base for 16" Band Saws.....	30-32	21.00
302375	Mitre Gauge.....	20-21	1.95
302470	Remote Control Switch.....	20-21	2.25
D3026	Band Saw 9 $\frac{1}{2}$ ".....	25	19.85
D3031	Jointer 6" (with Extensions).....	11	68.85
E3031	Jointer 6" (less Extensions).....	11	58.95
F3031	Super Value 6" Jointer.....	12	47.95
B303112	6" Jointer Blades for F3031 (Set of 3).....	49	2.50
303113	6" Jointer Blades for D and E3031 (Set of 3).....	49	4.25
D303125	Cast Iron Jointer Stand.....	11	40.90
303145	Adjustable Extension — Per pair.....	11	4.95
303185	Steel Stand.....	12-24	7.95
303190	Belt & Pulley Guard for Production Jointer on steel stand.....	Not Listed	6.95
A3033	Jointer 4 $\frac{1}{2}$ ".....	13	19.95
303316	4 $\frac{1}{2}$ " Jointer Blades (Set of 3).....	49	2.50
A3036	Comb. Jointer and Table Saw Outfit.....	10	123.90
303685	Steel Stand.....	10	9.85
3041	6" x $\frac{1}{2}$ " Bench Grinder.....	39	7.95
C3043	Water Grinder.....	39	10.95
3045A	Heavy Duty Pol. Head with Access.....	54	3.95

Catalog Number	Description	Catalog Page	List Price
3045B	Heavy Duty Pol. Head less Access.	54	\$ 8.20
3046	Streamline Hand Grinder	46	9.95
3048	Super Value Hand Grinder	47	7.95
304830	Chuck Guard for 3048	47	.35
3049	Heavy Duty Hand Grinder	44	15.95
304920	Filterette	46	1.25
304927	Speed Regulator	47	7.50
304930	Router Base	44	4.50
304945	Tool Post Adaptor	44	2.00
304955	Bench Stand and Shaper Table	44	6.45
304960	Bench Stand Complete	44	3.95
304970	Shaping Table, Post and Guard	44	2.50
304975	Model Makers Lathe	45	5.45
304978	1 1/4" Face Plate	45	1.25
304985	Model Makers Drill Press	45	6.45
305009	4 Step Pulley 4" for 1/2" V-Belts, 1/2" Bore. Not Listed		1.00
B3053	Lathe 10" x 31"	38	19.50
C3053	Super Value 10" x 31" Lathe	39	18.45
305307	Spur Center	52	.75
305311	6" Face Plate — 1/2" Bore (Threaded)	52	1.95
305311	6" Face Plate — 1/2" (Unthreaded) Bore	52	1.65
305312	Tool Rest Holder	52	.75
305313	12" Tool Rest	52	.95
305317	Cup Center	52	.75
305323	Steady Rest	53	2.25
305324	18" Tool Rest	52	1.50
305325	60 degree Center No. 1 Morse	53	.75
305326	3 1/2" Face Plate	52	1.25
305327	Screw Center No. 1 Morse	52	.75
305331	Motor Pulley for 3053	55	1.40
305344	Back Rest	52	4.25
305357	Compound Slide Rest	53	18.50
305358	4-Jaw Independent 4" Chuck	53	7.50
305360	18" Bed Extension	38	4.25
305367	Sanding Attachment	38	12.95
305370	Wheel Arbor No. 1 Morse	53	.95
B305385	Steel Stand	38	10.45
3056	Lathe 18" x 36"	36-37	47.95
305604	12" Tool Rest	52	1.10
305605	4" Tool Rest	52	.75
305606	24" Tool Rest	52	2.45
305607	Tool Rest Holder and Wheel	53	2.25
305617	4-Step Motor Pulley	55	1.22
305618	6" Face Plate	52	1.95
305626	Cup Center	52	.75
305635	Pillar Blocks	36-37	11.50
305639	Spur Center	52	.85
305641	3 1/2" Face Plate	53	1.25
305642	Steady Rest	53	2.25
305644	Back Rest	52	5.50
305656	60 degree Center #2 Morse	53	.75
305657	Compound Slide Rest	53	18.50
305658	4-Jaw Independent 4" Chuck	53	7.50
305660	Screw Center #2 Morse	52	.75
305661	Lathe Dog 1/2"	53	.75
305662	Set of 6 Lathe Bits	53	1.75
305663	4 Jaw Chuck 6"	53	12.95
305667	Sanding Attachment for 3056 Lathe	36-37	12.95
305670	Wheel Arbor No. 2 Morse	53	1.05
305675	Cast Iron Lathe Stand Top and Shelf	36-37	32.50
305676	Cast Iron Legs only	36-37	16.95
305680	Jack Shaft Assembly for 305685 Stand	36-37	9.95
305682	Jack Shaft Assembly for 305675 Stand	36-37	9.95
305685	Steel Stand for 3056 Lathe	36-37	10.85
3060	Sander	42	6.45
3061	Portable Sander	42	11.95
3062	Spindle Sander	42	1.95
3065	Sander 6"	40-41	26.50
306532	Dust Chute	40-41	3.95
306585	Steel Stand for 3065	40-41	7.45
306590	Belt and Pulley Guard	40-41	5.95
3071	Flexible Shaft	85	6.00
307133	Flexible Shaft Extension	85	3.50
3073	Heavy Duty Flexible Shaft	85	14.25
307321	Adaptor for 3061 and 3073	85	.50
307333	Extension for 3073	85	14.25
3074	Tripod	85	14.85
3075	Tripod Complete with Shaft & Motor	85	48.05
308064	Mortising Guide and Hold Down for B3086, B3087, B3082 and E3088	52	1.95
H308021	Belt Guard for Drill Presses	16	4.95
R3080	Ball Bearing Drill Press (Bench Type)	14-16	48.95
2R3080	Two Spindle Drill Press 1/2" chucks — F. O. B. Factory	17	169.50
2R3080	Two Spindle Drill Press 1/2" chucks — F. O. B. Factory	17	174.00
4R3080	Four Spindle Drill Press 1/2" chucks — F. O. B. Factory	17	295.00
4R3080	Four Spindle Drill Press 1/2" chucks — F. O. B. Factory	17	304.00
2R308003	Legs for Multiple Drill Presses — F. O. B. Factory	17	27.50
L308020	Taper Adaptor No. 2 Morse	15	1.95
L308025	Tapping Attachment	17	42.00
K308063	Mortising Head and Chuck for B3086, B3087 and E3088	52	2.65
L308063	Mortising Head and Chuck for R3080 and R3081	52	2.65

Catalog Number	Description	Catalog Page	List Price
L308067	1/4" Shaper Adaptor for Drill Press	52	\$.95
L308068	1/4" Shaper Adaptor for Drill Press	52	.95
308115	Hinged Motor Mounting	17	4.50
L308118	Drill Press Collar	17	1.95
308185	Mortising Guide and Hold Down for R3080 and R3081	52	2.25
F308101	Production Base	16	16.95
H308139	Production Table with Bracket	16	12.95
R3081	Ball Bearing Drill Press (Floor Type)	14-15	48.95
B3082	Drill Press (Bench Type)	19	19.95
B308263	Mortising Head for B3082 (Listed in Catalog as A308063)	52	1.85
E3083	Drill Press (Replaces B3083)	19	24.95
B3086	Super Value Bench Drill Press	19	32.95
B3087	Super Value Floor Drill Press	18	35.95
309030	Belt and Pulley Guard	26	4.95
309035	Hold Down Attachment	26-27	8.50
309088	Steel Stand for 3091	26-27	7.45
3091	Shaper	26-27	24.95
309103	Shaper Guard and Guide	52	4.75
3100	Router, Carver, Shaper	28-29	147.50
310060	Router Motor only	28-29	62.50
3110	Jack Shaft	54	3.95
311702	1/2" x 24" Steel Shaft	54	.80
311705	1/2" x 48" Steel Shaft	54	1.15
311801	1/2" Rigid Coupling	54	.23
311802	1/2" Rigid Coupling	54	.35
311901	1/2" Shaft Collar	54	.11
311902	1/2" Shaft Collar	54	.17
3120	1/2" Shaft Hanger	54	.95
3121	1/2" Shaft Hanger	54	1.25
3122	1/2" Shaft Hanger	54	2.50
3130B	Polishing Head	54	1.45
3130D	Table, Bracket and Mitre Gauge	54	.75
3130E	Accessory Kit	54	1.35
3130G	Polishing Head	54	1.00
3130H	Polishing Head	54	1.10
313004	Buffing Compound	51	.12
3140A	1/2" Drill Chuck	54	.45
3146A	1/2" Drill Chuck	54	.80
3146C	1/2" Chuck — #2 Morse Taper Shank	53	1.65
3146D	1/2" Chuck — #1 Morse Taper Shank	53	1.45
3146C	No. 2 Morse Taper Shank for Jacobs Chuck (Correct Catalog No. 305664)	53	1.85
3146B	No. 1 Morse Taper Shank for Jacobs Chuck (Correct Catalog No. 305366)	53	1.85
3150A	Motor Arbor less Chuck	54	.60
3150B	Motor Arbor with 1/2" Chuck	54	1.00
3150F	Motor Arbor with 1/2" Chuck	54	1.45
3190	Drill Press Vise	16	2.50
3200A	Set of 5 Chisels	52	4.25
320001	1/2" x 4" Skew Chisel	52	.70
320002	1/2" x 4" Skew Chisel	52	.75
320003	1/2" x 4" Gouge Chisel	52	.80
320004	1/2" x 5" Gouge Chisel	52	1.10
320005	1/2" x 4" Parting Chisel	52	.80
320006	1/2" Gouge	52	.80
320007	1/2" Round Nose	52	.75
320008	1/2" Spear Point	52	.75
320009	1" Reg. Skew	52	1.10
3201A	Set of 5 Chisels	52	3.40
320101	1/2" x 4" Skew Chisel	52	.55
320102	1/2" x 4" Skew Chisel	52	.60
320103	1/2" x 4" Gouge	52	.65
320104	1/2" x 5" Gouge	52	.85
320105	1/2" x 4" Parting Chisel	52	.60
3202	Set of 5 Modelmakers Turning Chisels	47	2.30
320201	1/2" Skew Chisel	47	.40
320202	1/2" Skew Chisel	47	.55
320203	1/2" Gouge	47	.55
320204	Round Nose	47	.40
320205	Cut-Off Tool	47	.40
320302	1/2" Skew Chisel	52	1.45
320306	1/2" Gouge	52	1.75
320307	1/2" Round Nose Chisel	52	1.65
320308	1/2" Spear Point Chisel	52	1.65
320309	1" Skew Chisel	52	1.95
320310	1/2" Gouge	52	1.85
320311	1" Gouge	52	2.40
320312	1/2" Parting Tool	52	1.65
3204	4" Buff Cloth	51	.15
3206	6" Buff Cloth	51	.25
3208	8" Buff Cloth	51	.45
3210	10" Buff Cloth	51	.70
3212	12" Buff Cloth	51	.90
3214C	4" Coarse Emery Wheel — 1/2" x 4"	51	.45
3214F	4" Fine Emery Wheel — 1/2" x 4"	51	.45
3216C	6" Coarse Emery Wheel 1/2" x 6"	51	1.00
3216F	6" Fine Emery Wheel 1/2" x 6"	51	1.00
3224C	4" Coarse Wire Brush	51	.40
3224F	4" Fine Wire Brush	51	.50
3226C	6" Coarse Wire Brush	51	.50
3226F	6" Fine Wire Brush	51	.65
3228C	8" Coarse Wire Brush	51	.75
3228F	8" Fine Wire Brush	51	1.00
3236C	6" Coarse Emery Wheel 1/2" x 6"	51	1.25
3236F	6" Fine Emery Wheel 1/2" x 6"	51	1.25

Catalog Number	Description	Catalog Page	List Price
3251	Sanding Drum	51	\$ 1.10
325201	Drum Sandpaper	51	.12
3253	Sanding Disc Adhesive	51	.45
3254	6" Sanding Disc	51	.65
3255	6" Rubber Pad	51	.38
3256	Sheepskin Polishing Pad	51	1.10
3257	Pkg. of 6" Sanding Discs	51	.80
3258	Sanding Belt 3"	51	.45
3259	Sanding Belt 6"	51	1.10
3260	Sanding Sheets for Spindle Sander — Dos.	42	.75
3261	8" Sanding Belts Metal Cutting	51	.50
3262	6" Sanding Belts Metal Cutting	51	1.35
3263	Sandpaper Disc for 3264 6" x 1/4"	51	.12
3264	Flexible Sanding Disc	51	1.60
3265	Sandpaper Disc 10"	37-38	.15
327001	Round File	50	.75
327002	Half Round File	50	.75
327003	Pillar File	50	.75
327004	Square File	50	.75
327005	8-Square File	50	.75
327006	Crochet File	50	.75
3270	Set of 6 Assorted Files	50	4.35
327101	Round File	50	.75
327102	Half Round File	50	.75
327103	Pillar File	50	.75
327104	Square File	50	.75
327105	8-Square File	50	.75
327106	Crochet File	50	.75
3271	Set of 6 Assorted Files	50	4.35
3300	DA 1/4" Pencil Drill	43	19.95
3305	DB 1/4" Heavy Duty Drill	43	36.00
3310	DC 1/4" Heavy Duty Drill	43	38.50
3315	DD 1/4" Heavy Duty Drill	43	39.95
3320	DF 1/4" Heavy Duty Drill	43	56.00
3325	DG 1/4" Heavy Duty Drill	43	59.00
3330	DH 1/4" Heavy Duty Drill	43	63.00
3351	Drilling Attachment	46	8.95
B3400	Pulley Display Board Complete	Not Listed	44.75
340150	1 1/4" Groove Pulley 1/4", 5/8" bore	55	.24
340175	1 1/4" Groove Pulley 1/4", 3/4" bore	55	.25
340200	2" Groove Pulley 1/4", 5/8" bore	55	.37
340225	2 1/4" Groove Pulley 1/4", 5/8", 3/4" bore	55	.38
340250	2 1/4" Groove Pulley 1/4", 5/8", 3/4" bore	55	.37
340275	2 1/4" Groove Pulley 1/4", 5/8", 3/4" bore	55	.40
340300	3" Groove Pulley 1/4", 5/8", 3/4" bore	55	.43
340325	3 1/4" Groove Pulley 1/4", 5/8", 3/4" bore	55	.43
340400	4" Groove Pulley 1/4", 5/8", 3/4" bore	55	.58
340500	5" Groove Pulley 1/4", 5/8", 3/4" bore	55	.75
340600	6" Groove Pulley 1/4", 5/8", 3/4" bore	55	.98
340650	6 1/4" Groove Pulley 1/4", 5/8", 3/4" bore	55	1.12
340800	8" Groove Pulley 1/4", 5/8", 3/4" bore	55	1.67
341000	10" Groove Pulley 1/4", 5/8", 3/4", 1" bore	55	2.30
341200	12" Groove Pulley 1/4", 5/8", 3/4", 1" bore	55	3.15
341500	2-step Pulley 2 1/4"x2" 1/4", 5/8" bore	55	.45
341505	4-step Pulley 4" 1/4", 5/8", 3/4" bore	55	1.08
341506	4-step Pulley 5" 1/4", 5/8", 3/4" bore	55	1.25
341600	Crown Face Pulley 1 1/4"x1 1/4" 1/4", 5/8" bore	55	.37
341602	Crown Face Pulley 2"x2" 1/4", 5/8", 3/4" bore	55	.40
341603	Crown Face Pulley 2"x3" 1/4", 5/8", 3/4" bore	55	.65
341605	Crown Face Pulley 2 1/4"x2 1/4" 1/4", 5/8", 3/4" bore	55	.58
341606	Crown Face Pulley 2 1/4"x3" 1/4", 5/8", 3/4" bore	55	.77
341608	Crown Face Pulley 3"x1 1/4" 1/4", 5/8", 3/4" bore	55	.58
341611	Crown Face Pulley 3"x3" 1/4", 5/8", 3/4" bore	55	.95
341700	Flanged Pulley 1 1/4"x1 1/4" 1/4", 5/8" bore	55	.46
341702	Flanged Pulley 2"x1 1/4" 1/4", 5/8" bore	55	.46
341704	Flanged Pulley 2 1/4"x1 1/4" 1/4", 5/8" bore	55	.53
341706	Flanged Pulley 2 3/4"x1 1/4" 1/4", 5/8" bore	55	.57
341708	Flanged Pulley 3"x1 1/4" 1/4", 5/8" bore	55	.60
341800	Coupling 1" 1/4", 5/8" bore	55	.43
341802	Coupling 1 1/4" 1/4", 5/8", 3/4" bore	55	.58
341812	Coupling 1" comb. bore 1/4" x 5/8"	55	.43
341813	Coupling 1 1/4" comb. bore 1/4" x 3/4"	55	.58
341814	Coupling 1 3/4" comb. bore 1/4" x 3/4"	55	.58
341815	Coupling 1 3/4" comb. bore 5/8" x 3/4"	55	.58
3434A	4" Dado Head complete	50	2.50
343401	4" Outer blade	50	.75
343402	4" Inside Cutter	50	.25
3435A	5" Dado Head complete	50	3.95
343501	5" Outer Blade	50	1.25
343502	5" Inside Cutter	50	.35
3436A	6" Dado Head complete	50	10.95
343601	6" Outer Blade	50	3.50
343602	6" Inside Cutter 1/4"	50	1.65
343603	6" Inside Cutter 3/4"	50	1.75
343604	6" Inside Cutter 1/2"	50	1.00
3442-1/8"	Band Saw Blade 60"	50	.85
3442-1/4"	Band Saw Blade 60"	50	.85
3442-3/8"	Band Saw Blade 60"	50	.95
3443-1/2"	Band Saw Blade 60" Metal Cutting	50	1.20
3444-1/8"	Band Saw Blade 78"	50	1.00
3444-1/4"	Band Saw Blade 78"	50	1.00
3444-3/8"	Band Saw Blade 78"	50	1.00
3444-1/2"	Band Saw Blade 78"	50	1.20
3445-1/2"	Band Saw Blade 78" Metal Cutting	50	1.60

Catalog Number	Description	Catalog Page	List Price
3446-1/4"	Band Saw Blade 111"	50	\$ 1.55
3446-3/8"	Band Saw Blade 111"	50	1.65
3446-1/2"	Band Saw Blade 111"	50	1.65
3446-3/4"	Band Saw Blade 111"	50	1.75
3446-1"	Band Saw Blade 111"	50	2.10
3447-1/4"	Band Saw Blade 111" Metal Cutting	50	1.95
3448-1/4"	Band Saw Blade 95"	50	1.45
3448-3/8"	Band Saw Blade 95"	50	1.50
3448-1/2"	Band Saw Blade 95"	50	1.60
3448-3/4"	Band Saw Blade 95"	50	1.70
3449-1/4"	Band Saw Blade 95" Metal Cutting	50	1.90
3454B	4" C. C. Saw Blade	50	.50
3456A	6" Comb. Saw Blade	50	1.45
3456B	6" C. C. Saw Blade	50	1.45
3456C	6" Hollow Ground Saw Blade	50	3.50
3457A	7" Comb. Saw Blade	50	1.65
3457B	7" C. C. Saw Blade	50	1.65
3457C	7" Hollow Ground Saw Blade	50	4.00
3458A	8" Comb. Saw Blade	50	1.85
3458B	8" C. C. Saw Blade	50	1.85
3458C	8" Hollow Ground Saw Blade	50	4.75
3458X	8" Raker Tooth Comb. Blade	50	1.85
3460B	10" C. C. Saw Blade	50	2.45
3460C	10" Hollow Ground Saw Blade	50	5.50
3460X	10" Raker Tooth Comb. Blade	50	2.45
3481A	Pkg. of 6 P. E. Blades 5"	50	.19
3482B	Pkg. of 6 P. E. Blades 5"	50	.19
3483A	Pkg. of 6 P. E. Blades 5"	50	.18
3483B	Pkg. of 6 P. E. Blades 5"	50	.19
3483C	Pkg. of 6 P. E. Blades 5"	50	.19
3484A	Pkg. of 6 P. E. Blades 5"	50	.21
3484B	Pkg. of 6 P. E. Blades 5"	50	.21
3485A	Pkg. of 6 P. E. Blades 5"	50	.16
3486A	Pkg. of 6 P. E. Blades 5"	50	.17
3487A	Pkg. of 6 P. E. Blades 5"	50	.21
3487B	Pkg. of 6 P. E. Blades 5"	50	.21
3487C	Pkg. of 6 P. E. Blades 5"	50	.21
3481A	Pkg. of 6 P. E. Blades 6"	50	.21
3482B	Pkg. of 6 P. E. Blades 6"	50	.21
3483A	Pkg. of 6 P. E. Blades 6"	50	.16
3483B	Pkg. of 6 P. E. Blades 6"	50	.21
3483C	Pkg. of 6 P. E. Blades 6"	50	.21
3484A	Pkg. of 6 P. E. Blades 6"	50	.21
3484B	Pkg. of 6 P. E. Blades 6"	50	.21
3485A	Pkg. of 6 P. E. Blades 6"	50	.17
3486A	Pkg. of 6 P. E. Blades 6"	50	.17
3487A	Pkg. of 6 P. E. Blades 6"	50	.21
3487B	Pkg. of 6 P. E. Blades 6"	50	.21
3487C	Pkg. of 6 P. E. Blades 6"	50	.21
3490A	Pkg. of 3 Sabre Blades	50	.27
3500B	Set of 24 1/4" cutters and 6 Shaper collars	49	12.95
350101	Shaper Cutters 1/4" bore	49	.55
350102	Shaper Cutters 1/4" bore	49	.55
350103	Shaper Cutters 1/4" bore	49	.55
350104	Shaper Cutters 1/4" bore	49	.55
350201	Shaper Cutters 1/4" bore	49	.55
350202	Shaper Cutters 1/4" bore	49	.55
350301	Shaper Cutters 1/4" bore	49	.55
350302	Shaper Cutters 1/4" bore	49	.55
350401	Shaper Cutters 1/4" bore	49	.55
350402	Shaper Cutters 1/4" bore	49	.55
350403	Shaper Cutters 1/4" bore	49	.55
350404	Shaper Cutters 1/4" bore	49	.55
350501	Shaper Cutters 1/4" bore	49	.55
350601	Shaper Cutters 1/4" bore	49	.55
350602	Shaper Cutters 1/4" bore	49	.55
350603	Shaper Cutters 1/4" bore	49	.55
350604	Shaper Cutters 1/4" bore	49	.55
350701	Shaper Cutters 1/4" bore	49	.55
350702	Shaper Cutters 1/4" bore	49	.55
350801	Shaper Cutters 1/4" bore	49	.55
350802	Shaper Cutters 1/4" bore	49	.55
350901	Shaper Cutters 1/4" bore	49	.55
350902	Shaper Cutters 1/4" bore	49	.55
351001	Shaper Cutters 1/4" bore	49	1.20
3520A	Set of 8 1/4" cutters and 6 Shaper collars	49	11.90
352001	Shaper Cutters 1/4" bore	49	1.35
352002	Shaper Cutters 1/4" bore	49	1.35
352003	Shaper Cutters 1/4" bore	49	1.35
352004	Shaper Cutters 1/4" bore	49	1.35
352005	Shaper Cutters 1/4" bore	49	1.35
352006	Shaper Cutters 1/4" bore	49	1.35
352007	Shaper Cutters 1/4" bore	49	1.35
352008	Shaper Cutters 1/4" bore	49	1.35
353001	1/4" Routing Cutter	49	.75
353002	1/4" Routing Cutter	49	.75
353003	1/4" Routing Cutter	49	.85
353004	1/4" Routing Cutter	49	.90
353005	1/4" Routing Cutter	49	1.10
353006	1/4" Routing Cutter	49	.75
353007	1/4" Routing Cutter	49	.75
354001	1/4" Cove Cutter	49	1.20
354003	1/4" Cove Cutter	49	1.35
354004	1/4" Cove Cutter	49	1.65
355001	Straight Face Cutter	49	4.30
355002	Round Nose Cutter	49	3.60
355003	Liner Cutter	49	2.75
355004	Hook Tool	49	4.30

Catalog Number	Description	Catalog Page	List Price
355005	Half Round.....	49	\$ 2.90
355006	Button Drill.....	49	4.30
356001	Split Shaper Collars per pr.....	49	1.25
356002	Blank Knives 1/2" each.....	49	.85
356004	Blank Knives 1" each.....	49	.95
3570	Set of 6 Burrs for Wood.....	48	4.00
3571A	Burrs for Wood.....	48	.70
3571B	Burrs for Wood.....	48	.70
3571C	Burrs for Wood.....	48	.70
3571D	Burrs for Wood.....	48	.70
3571E	Burrs for Wood.....	48	.70
3571F	Burrs for Wood.....	48	.70
3571G	Burrs for Wood.....	48	.70
3571H	Burrs for Wood.....	48	.70
3571I	Burrs for Wood.....	48	.70
3571J	Burrs for Wood.....	48	.70
3571K	Finishing Burr for Wood.....	47	.41
3571L	Finishing Burr for Wood.....	47	.41
3571M	Finishing Burr for Wood.....	47	.41
3571P	Finishing Burr for Wood.....	47	.41
3571R	Finishing Burr for Wood.....	47	.41
3571S	Finishing Burr for Wood.....	47	.41
3572	Set of 6 Burrs for Metal.....	48	4.00
3573A	Burrs for Metal.....	48	.70
3573B	Burrs for Metal.....	48	.70
3573C	Burrs for Metal.....	48	.70
3573D	Burrs for Metal.....	48	.70
3573E	Burrs for Metal.....	48	.70
3573F	Burrs for Metal.....	48	.70
3573G	Burrs for Metal.....	48	.70
3573H	Burrs for Metal.....	48	.70
3573I	Burrs for Metal.....	48	.70
3573J	Burrs for Metal.....	48	.70
3574	Set of 9 Pieces Abrasive Points (etc.).....	48	2.45
3575A	Sanding Drum.....	48	.75
3575B	Mandrel for Sanding Discs.....	48	.70
3575C	Wire Wheel.....	48	.65
3575D	Bristle Brush.....	48	.15
3575E	Cup Shape Bristle Brush.....	48	.15
3575F	Bristle Brush.....	48	.15
3575G	Felt Wheel.....	48	.20
3575H	Sandpaper Disc — 1/2" — per 100.....	48	.30
3575I	Sandpaper Disc — 1/2" — per 100.....	48	.30
3575J	No-Lap Sanding Sleeve for 3575A — Doz.....	48	.40
3575K	Saw Blade 1/2".....	48	.75
3575L	Saw Blade 1 1/2".....	48	.75
3575M	Mandrel for Saws.....	48	.40
3575P	Rubber Polishing Wheel — Doz.....	48	1.00
3575R	Carborundum Cutting Disc — Doz.....	48	.30
3575S	Grinding Wheel, 1/2" x 1/2".....	Not Listed	.15
3575T	Mandrel for Grinding Wheel.....	Not Listed	.15
3575W	Dressing Stone.....	47	.25
3576A	Veining Bit 1/2".....	48	.95
3576B	Veining Bit 1/2".....	48	.95
3576C	Veining Bit 1/2".....	48	.95
3577A	Fish Tail Bit 1/2".....	48	1.50
3577B	Fish Tail Bit 1/2".....	48	1.50
3578A	Straight Router Bit 1/2".....	48	1.25
3578B	Straight Router Bit 1/2".....	48	1.25
3578C	Straight Router Bit 1/2".....	48	1.25
3578A	Model Makers Drill .085 Diam.....	47	.25
3578B	Model Makers Drill .087 Diam.....	47	.25
3578C	Model Makers Drill .040 Diam.....	47	.25
3579D	Model Makers Drill .045 Diam.....	47	.25
3579E	Model Makers Drill .050 Diam.....	47	.25
3579F	Model Makers Drill .055 Diam.....	47	.25
3579G	Model Makers Drill .065 Diam.....	47	.25
3579H	Model Makers Drill .070 Diam.....	47	.25
3579I	Model Makers Drill .080 Diam.....	47	.25
3579K	Model Makers Drill .090 Diam.....	47	.25
3585	Heavy Duty Grinder Kit.....	45	22.95

Catalog Number	Description	Catalog Page	List Price
B37	Abrasive Point.....	48	\$.39
B44	Abrasive Point.....	48	.39
B66	Abrasive Point.....	48	.39
B98	Abrasive Point.....	48	.39
B123	Abrasive Point.....	48	.36
B173	Abrasive Point.....	48	.33
W144	Abrasive Point.....	48	.33
W160	Abrasive Point.....	48	.33
W185	Abrasive Point.....	48	.36
W191	Abrasive Point.....	48	.33

3590A	Set of 6 Shaper Collars 1/2".....	49	.60
3591A	Set of Shaper Collars 1/2".....	49	.70
359601	1/2" Hollow Chisel.....	52	1.60

Catalog Number	Description	Catalog Page	List Price
359603	1/2" Hollow Chisel.....	52	\$ 1.60
359604	1/2" Hollow Chisel.....	52	1.60
359701	1/2" Hollow Chisel Bit.....	52	1.45
359703	1/2" Hollow Chisel Bit.....	52	1.45
359704	1/2" Hollow Chisel Bit.....	52	1.45
359801	1/2" Multi Spur Bit.....	52	2.10
359802	1/2" Multi Spur Bit.....	52	2.25
359803	1/2" Multi Spur Bit.....	52	2.45
359804	1/2" Multi Spur Bit.....	52	2.65
359805	1/2" Multi Spur Bit.....	52	2.80
359806	1" Multi Spur Bit.....	52	3.30
359807	1 1/2" Multi Spur Bit.....	52	3.50
359808	1 3/4" Multi Spur Bit.....	52	4.25
B3600	Belt Display Board Complete.....	Not Listed	78.44
360120	1/2" x 20" V-Belt.....	55	.61
360121	1/2" x 21" V-Belt.....	55	.61
360122	1/2" x 22" V-Belt.....	55	.61
360123	1/2" x 23" V-Belt.....	55	.61
360124	1/2" x 24" V-Belt.....	55	.61
360125	1/2" x 25" V-Belt.....	55	.61
360127	1/2" x 27" V-Belt.....	55	.64
360131	1/2" x 31" V-Belt.....	55	.71
360134	1/2" x 34" V-Belt.....	55	.76
360135	1/2" x 35" V-Belt.....	55	.77
360136	1/2" x 36" V-Belt.....	55	.80
360137	1/2" x 37" V-Belt.....	55	.81
360139	1/2" x 39" V-Belt.....	55	.85
360143	1/2" x 43" V-Belt.....	55	.95
360160	1/2" x 60" V-Belt.....	55	1.25
360220	1/2" x 20" V-Belt.....	55	.65
360222	1/2" x 22" V-Belt.....	55	.65
360223	1/2" x 23" V-Belt.....	55	.65
360224	1/2" x 24" V-Belt.....	55	.65
360225	1/2" x 25" V-Belt.....	55	.65
360226	1/2" x 26" V-Belt.....	55	.65
360227	1/2" x 27" V-Belt.....	55	.67
360228	1/2" x 28" V-Belt.....	55	.67
360229	1/2" x 29" V-Belt.....	55	.70
360230	1/2" x 30" V-Belt.....	55	.72
360231	1/2" x 31" V-Belt.....	55	.74
360232	1/2" x 32" V-Belt.....	55	.75
360233	1/2" x 33" V-Belt.....	55	.77
360234	1/2" x 34" V-Belt.....	55	.80
360235	1/2" x 35" V-Belt.....	55	.81
360236	1/2" x 36" V-Belt.....	55	.82
360237	1/2" x 37" V-Belt.....	55	.85
360238	1/2" x 38" V-Belt.....	55	.87
360239	1/2" x 39" V-Belt.....	55	.90
360240	1/2" x 40" V-Belt.....	55	.90
360241	1/2" x 41" V-Belt.....	55	.92
360242	1/2" x 42" V-Belt.....	55	.97
360243	1/2" x 43" V-Belt.....	55	1.00
360244	1/2" x 44" V-Belt.....	55	1.02
360245	1/2" x 45" V-Belt.....	55	1.02
360246	1/2" x 46" V-Belt.....	55	1.05
360247	1/2" x 47" V-Belt.....	55	1.05
360248	1/2" x 48" V-Belt.....	55	1.08
360249	1/2" x 49" V-Belt.....	55	1.10
360250	1/2" x 50" V-Belt.....	55	1.12
360251	1/2" x 51" V-Belt.....	55	1.14
360252	1/2" x 52" V-Belt.....	55	1.15
360253	1/2" x 53" V-Belt.....	55	1.17
360254	1/2" x 54" V-Belt.....	55	1.19
360255	1/2" x 56" V-Belt.....	55	1.22
360258	1/2" x 58" V-Belt.....	55	1.26
360260	1/2" x 60" V-Belt.....	55	1.30
360262	1/2" x 62" V-Belt.....	55	1.32
360264	1/2" x 64" V-Belt.....	55	1.37
360265	1/2" x 65" V-Belt.....	55	1.39
360266	1/2" x 66" V-Belt.....	55	1.40
360268	1/2" x 68" V-Belt.....	55	1.45
360270	1/2" x 70" V-Belt.....	55	1.49
360272	1/2" x 72" V-Belt.....	55	1.52
360274	1/2" x 74" V-Belt.....	55	1.55
360277	1/2" x 77" V-Belt.....	55	1.62
360282	1/2" x 82" V-Belt.....	55	1.73
360287	1/2" x 87" V-Belt.....	55	1.77
360292	1/2" x 92" V-Belt.....	55	1.83
3700SES	1/4 H.P. Motor — 110 volt, 60 cycle.....	56	8.95
3710DES	1/4 H.P. Motor — 110 volt, 60 cycle.....	56	12.75
3710DEB	1/4 H.P. Motor — 110 volt, 60 cycle.....	56	13.95
3720SES	1/4 H.P. Motor — 110/220 volt, 60 cycle.....	56	27.95
3720DES	1/4 H.P. Motor — 110/220 volt, 60 cycle.....	56	27.95
3720DEB	1/4 H.P. Motor — 110/220 volt, 60 cycle.....	56	33.95
3740DEB	1 H.P. Motor — 110/220 volt, 60 cycle.....	56	41.50
3760	Reversing Switch.....	27	3.25
3765	Adjustable Light.....	51	1.35
3766	Bulb for Band Saw Light.....	20-22-24	.35
B3900	Hand Grinder Display Board Complete.....	Not Listed	99.19

GUARANTEE ALL MACHINERY AND ACCESSORIES ARE GUARANTEED AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS. WRITTEN CONSENT MUST BE OBTAINED BEFORE MAKING RETURNS AND REASON GIVEN FOR MAKING SAID RETURNS.

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